SUBSET 04 - STRUCTURE
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S-02	GENERAL PLAN AND ELEVATION	S-22	WINGWALL DETAILS
S-03	PROFILE AND TYPICAL BRIDGE SECTION	S-23	MISCELLANEOUS SUBSTRUCTURE DETAILS
S-04	WORKING POINTS LAYOUT AND QUANTITIES	S-24	FRAMING PLAN
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S-06	STAGED CONSTRUCTION PLANS (1 OF 2)	S-26	DECK REINFORCEMENT PLAN AND SECTION
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S-11	BORING LOGS (2 OF 4)	S-31	CONCRETE BARRIER DETAILS
S-12	BORING LOGS (3 OF 4)		
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S-14	ABUTMENT NO. 1 FOUNDATION LAYOUT		
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S-20	ABUTMENT REINFORCEMENT DETAILS		

DESIGNED BY:
MCFARLAND JOHNSON

STATE OF CONNECTICUT
JAMES C. HALL JR
LICENSED
PROFESSIONAL ENGINEER

James C Hall
2014.11.21
11:32:25-05'00'

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: DDM/MTS
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_01STRUCT_SUBSET.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
JAMES C. HALL JR
LICENSED
PROFESSIONAL ENGINEER

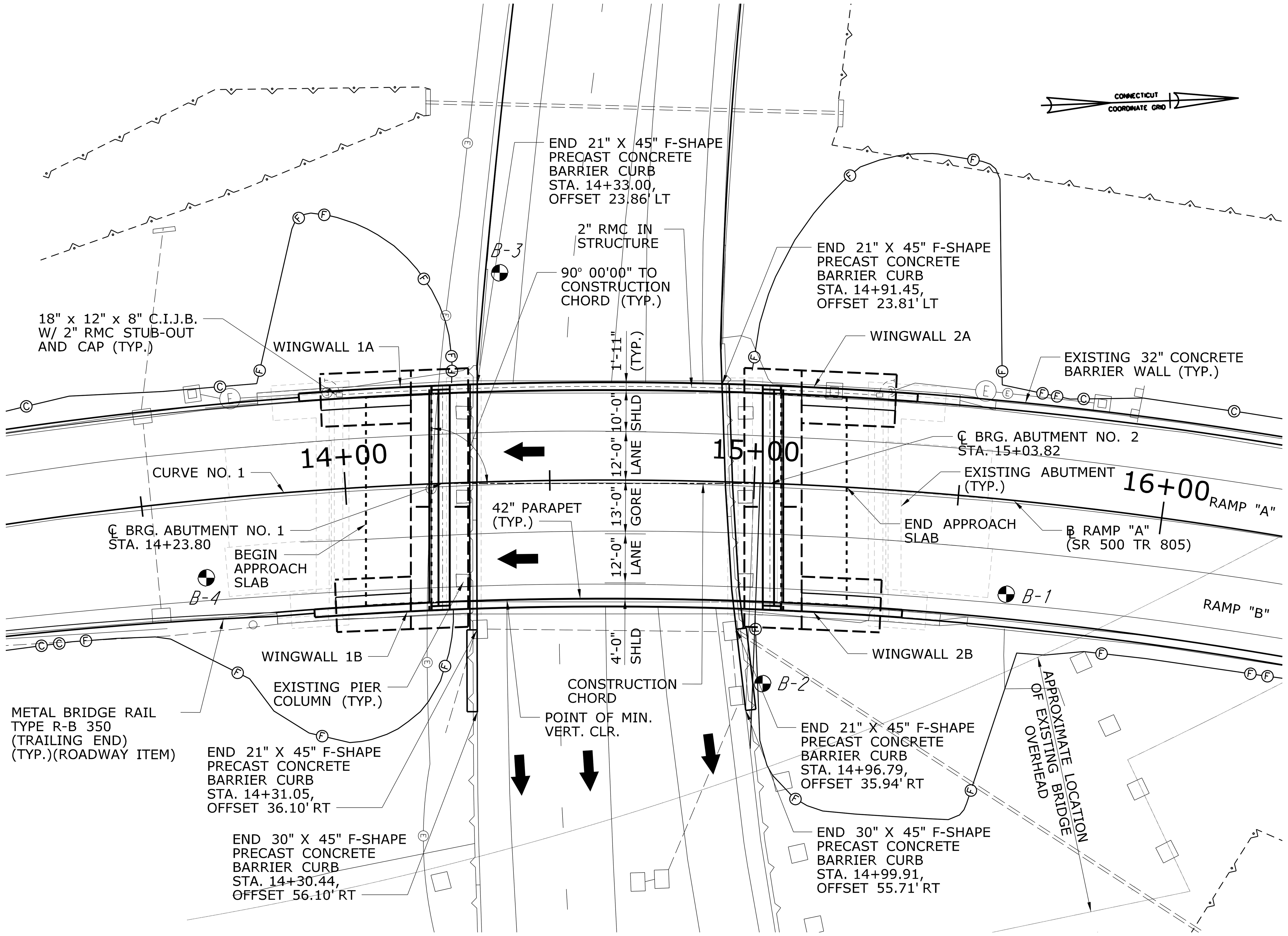
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **STRUCTURE SUBSET INDEX SHEET**

PROJECT NO. **042-304**
DRAWING NO. **S-01**
SHEET NO. **01.04.01**

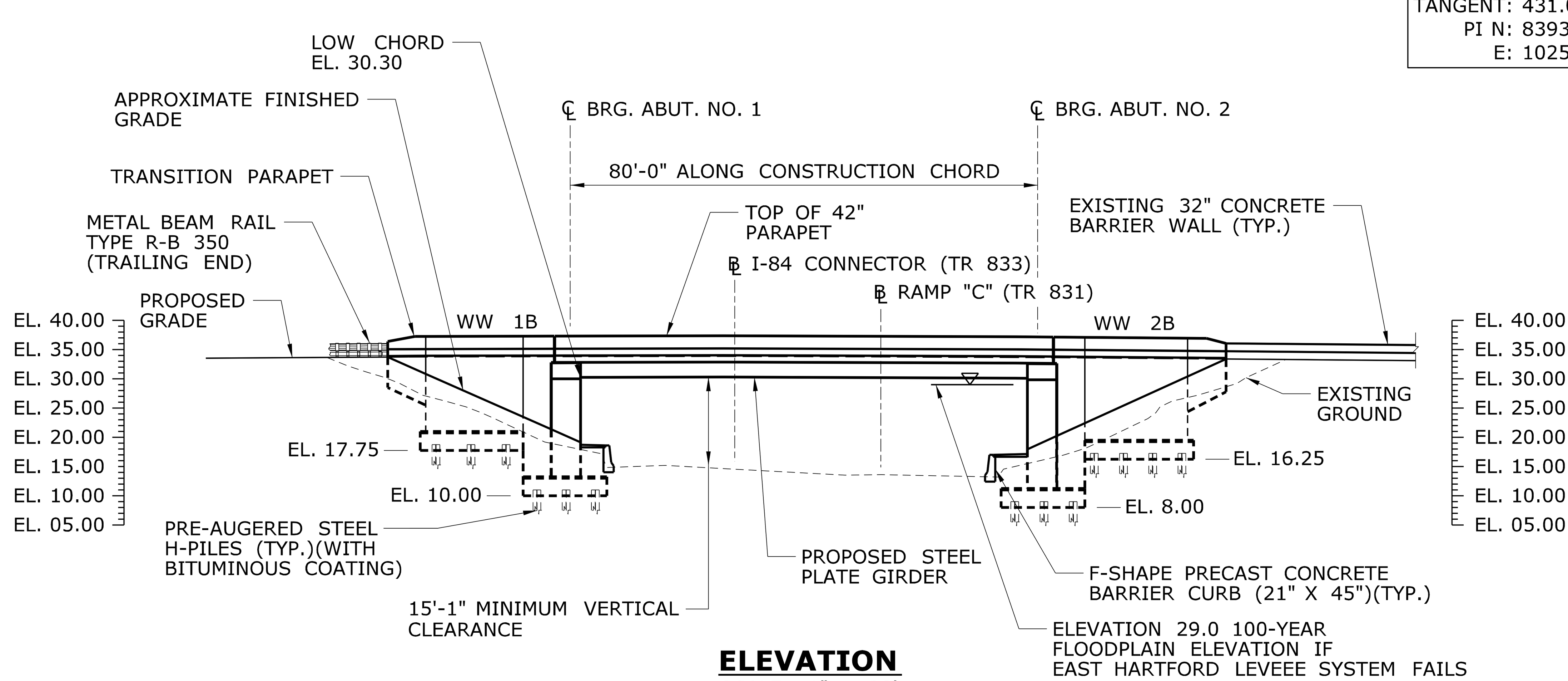


PLAN
SCALE: 1" = 20'

BORING LEGEND

⊕ BORING (2014)

CURVE NO. 1	
RADIUS:	1000.000'
DELTA:	46° 38'15.6" RIGHT
LENGTH:	813.981'
TANGENT:	431.058'
PI N:	839371.85
E:	1025903.48



ELEVATION
SCALE: 1" = 20'

GENERAL NOTES

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FORM 816 (2004), SUPPLEMENTAL SPECIFICATIONS DATED JULY 2014 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SIXTH EDITION INCLUDING 2013 INTERIM REVISIONS AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL (2003 EDITION), UP TO AND INCLUDING 2011 REVISIONS.

DESIGN STRESSES:

CLASS "A" CONCRETE .... f'c = 3.0 KSI
CLASS "F" CONCRETE .... f'c = 4.0 KSI
STRUCTURAL STEEL (AASHTO M270, GRADE 50W)........ F_y = 50 KSI
REINFORCEMENT (ASTM A615 GRADE 60) .... F_y = 60 KSI
STEEL PILES (AASHTO M270, GRADE 50) .... F_y = 50 KSI

LIVE LOAD: DESIGN VEHICLES ARE AS FOLLOWS:
STANDARD DESIGN VEHICLE: AASHTO HL93
PERMIT (OVERLOAD) VEHICLE(S): 6 STANDARD CONNDOT VEHICLES

COMPRESSIVE STRENGTH: THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN, f'_c, OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATION 'SECTION 6.01 CONCRETE FOR STRUCTURES'

FUTURE PAVING ALLOWANCE: NONE

STRUCTURAL STEEL: SEE STRUCTURE SHEET NOTES FOR DESIGNATIONS AND REQUIREMENTS

BITUMINOUS CONCRETE OVERLAY: THIS SHALL CONSIST OF TWO LIFTS. THE FIRST SHALL BE SUPERPAVE 1" THICK - HMA S0.25 (BOTTOM COURSE) AND THE SECOND LIFT SHALL BE SUPERPAVE 2" THICK - HMA S0.5 (TOP COURSE) FOR A TOTAL OF 3".

PILE LOADS: THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE GROUP LOADS AS GIVEN IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DIMENSIONS: ALL DIMENSIONS SHOWN ON THE PLANS ARE IN FEET AND INCHES EXCEPT IF NOTED OTHERWISE. ALL ELEVATIONS ARE GIVEN IN FEET. WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

EXISTING TEMPORARY BARRIERS: THE EXISTING TEMPORARY CONCRETE BARRIERS ON BRIDGE NO. 02374 SHALL BE REMOVED BY THE CONTRACTOR, SALVAGED AND DELIVERED TO THE DISTRICT MAINTENANCE DEPARTMENT (SEE THE SECTION 8.22 NOTICE TO CONTRACTOR - SALVAGE BARRIER CURB).

CONCRETE DISTRIBUTION		
SUPERSTRUCTURE	162	C.Y.
SUBSTRUCTURE	676	C.Y.
FOOTINGS	332	C.Y.
TOTAL	1170	C.Y.

TRANSPORTATION DIMENSIONS AND WEIGHTS				
MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING MASS
G1 - G8	81.33 FT	2.71 FT	1.17 FT	14,400 LB

CONCRETE NOTES

COMPOSITE CONSTRUCTION: NO TEMPORARY INTERMEDIATE SUPPORTS SHALL BE USED DURING THE PLACING AND SETTING OF THE CONCRETE DECK SLAB. CONSTRUCTION LOADS AND DEAD LOADS WILL BE PERMITTED WHEN DIRECTED BY THE ENGINEER BUT ONLY WHEN THE CONCRETE HAS REACHED A STRENGTH OF f'c = 3500 PSI. LIVE LOADS (TRAFFIC) WILL BE PERMITTED ON THE STRUCTURE AFTER THE CONCRETE HAS REACHED A STRENGTH OF f'c = 4000 PSI.

CLASS "A" CONCRETE: CLASS "A" CONCRETE SHALL BE USED FOR ABUTMENT AND WINGWALL STEMS, FOOTINGS, AND F-SHAPE BARRIER CAPS

CLASS "F" CONCRETE: CLASS "F" CONCRETE SHALL BE USED FOR BRIDGE DECKS INCLUDING PARAPETS, APPROACH SLABS, WINGWALL PARAPETS, AND KEEPER BLOCKS.

JOINT SEAL: SEE ASPHALTIC PLUG EXPANSION JOINTS SYSTEM SPECIAL PROVISION.

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1.0" BY 1.0" UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE TWO INCHES COVER UNLESS DIMENSIONED OTHERWISE.

REINFORCEMENT: ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

EPOXY COATED REINFORCING BARS: ALL REINFORCEMENT IN THE SUPERSTRUCTURE INCLUDING THE CONCRETE DECK SLAB, PARAPETS, WINGWALL PARAPETS, AND THE APPROACH SLABS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. THESE BARS SHALL BE INCLUDED IN THE PAY ITEM FOR "DEFORMED STEEL BARS (EPOXY COATED)".

FELT: THE COST OF FURNISHING AND PLACING 15-POUND ROOFING FELT IS INCLUDED IN THE ITEM FOR "CLASS 'A' CONCRETE"

CLOSED CELL ELASTOMER: THE COST OF FURNISHING AND INSTALLING CLOSED CELL ELASTOMER SHALL BE INCLUDED IN THE COST OF THE ITEM "CLASS 'F' CONCRETE."

CONSTRUCTION JOINTS: CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.

REMAIN-IN-PLACE FORMS: THE USE OF REMAIN-IN-PLACE FORMS SHALL BE ALLOWED IN ALL BUT THE FOLLOWING LOCATIONS: UNDER CANTILEVER SLABS SUCH AS THE OVERHANG OUTSIDE OF FASCIA GIRDERS, AND UNDER LONGITUDINAL DECK JOINTS. THE GIRDERS HAVE BEEN DESIGNED FOR THE ADDITIONAL WEIGHT OF 5 POUNDS PER SQUARE FOOT FOR THE REMAIN-IN-PLACE FORMS.

NOTICE TO BRIDGE INSPECTORS

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING FOR COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF BRIDGE SAFETY AND EVALUATION.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
NONE	NONE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_02GEN_PLAN.dgn

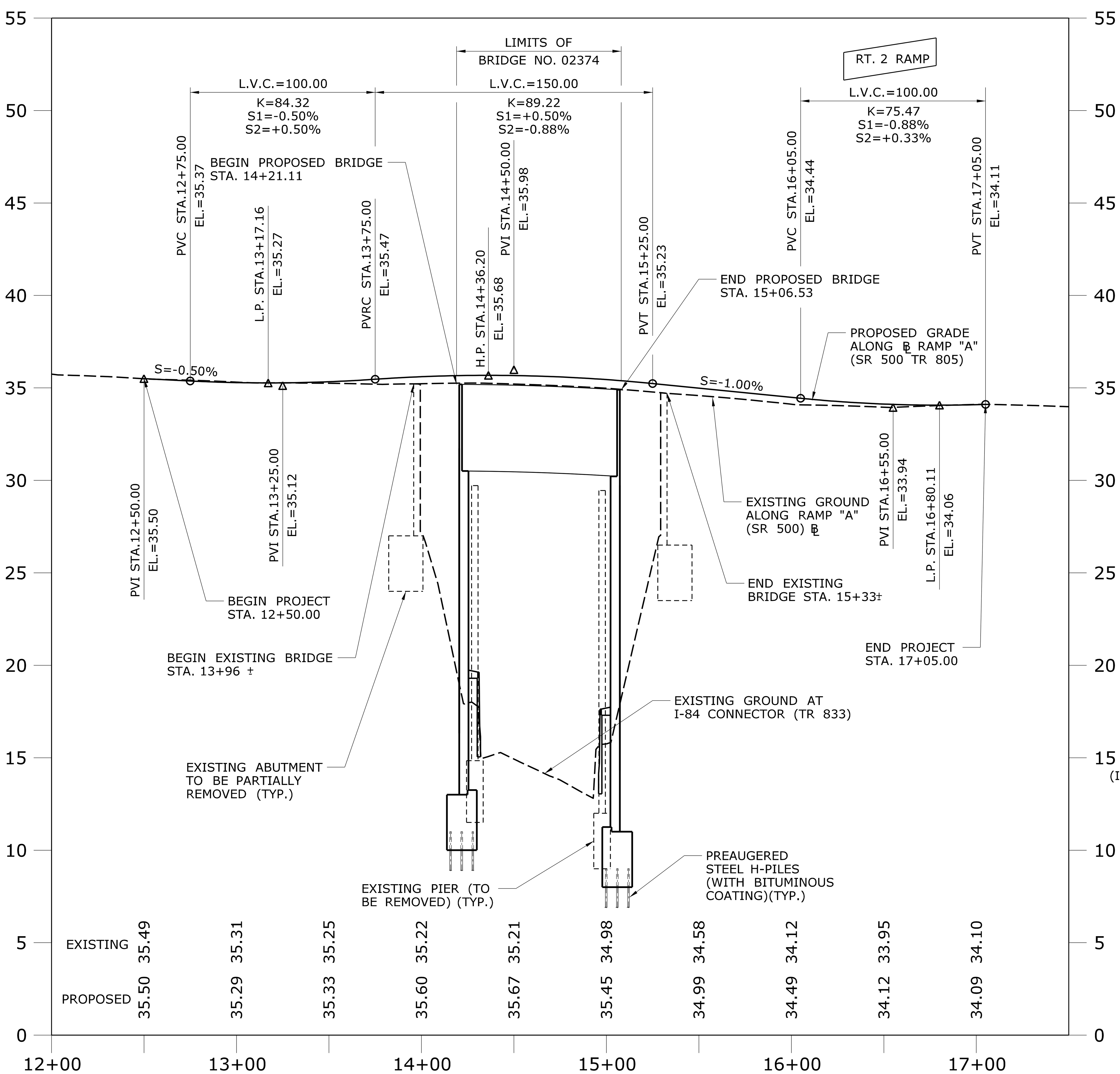
SIGNATURE/ BLOCK:
STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

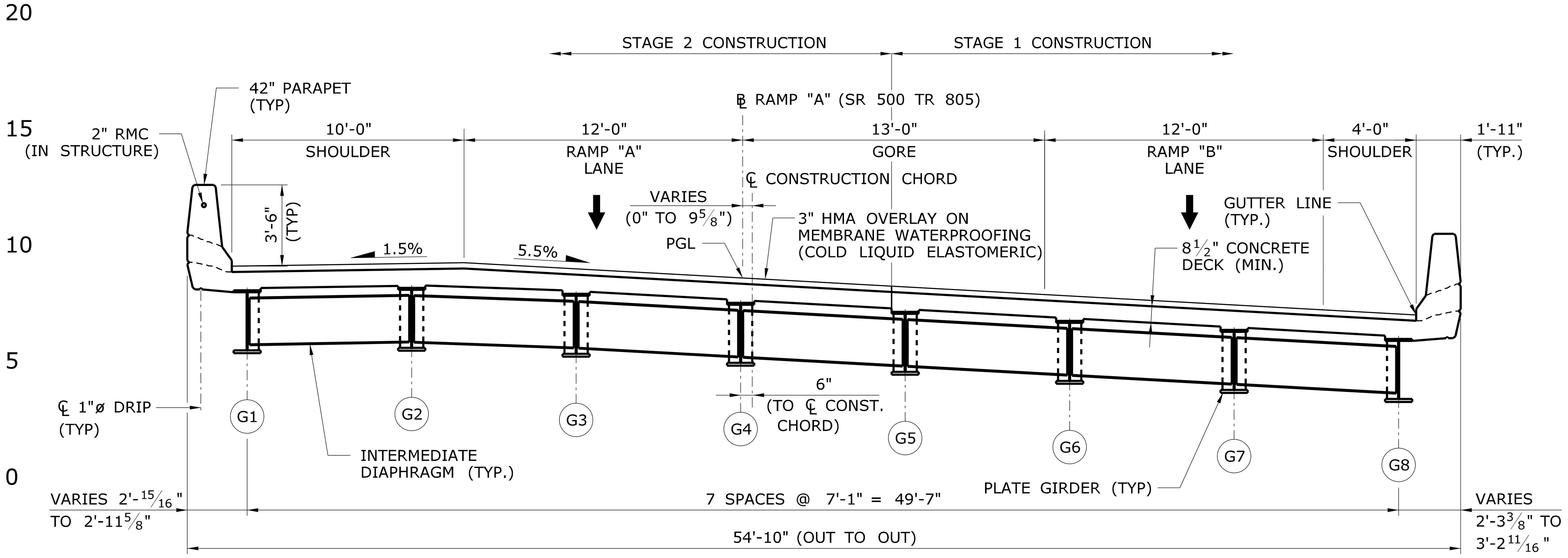
DRAWING TITLE: **GENERAL PLAN AND ELEVATION**

PROJECT NO. **042-304**
DRAWING NO. **S-02**
SHEET NO. **01.04.02**



PROFILE - RAMP "A"

SCALE: 1" = 40' HORIZ.
1" = 4' VERTICAL



TYPICAL BRIDGE CROSS SECTION

SCALE: ¼" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_03PROFILE_PLAN.dgn

SIGNATURE/BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

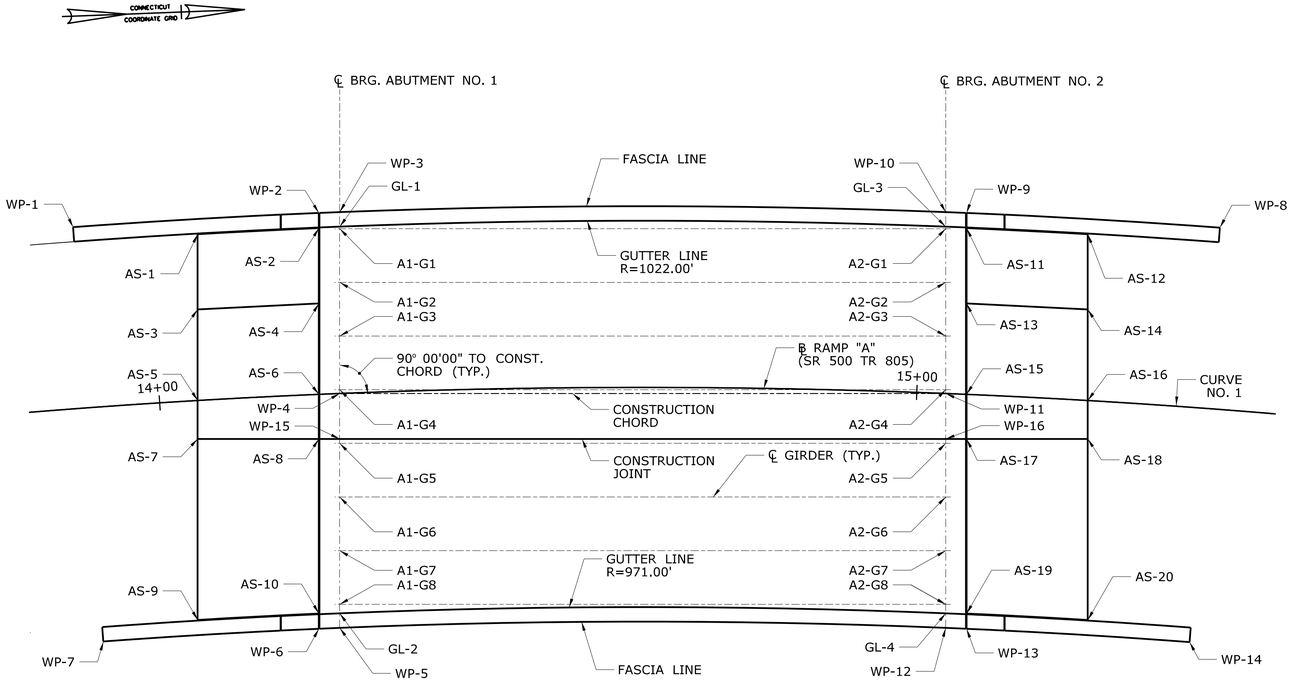
TOWN: **EAST HARTFORD**

DRAWING TITLE: **PROFILE AND TYPICAL BRIDGE SECTION**

PROJECT NO. **042-304**

DRAWING NO. **S-03**

SHEET NO. **01.04.03**



LAYOUT PLAN
SCALE: 1" = 10'

TABLE OF QUANTITIES		
ITEM DESCRIPTION	UNIT	QUANTITY
LEAD COMPLIANCE FOR MISCELLANEOUS EXTERIOR TASKS	LS	LS
STRUCTURE EXCAVATION - EARTH (COMPLETE)	CY	1,306
STRUCTURE EXCAVATION - ROCK (COMPLETE)	CY	145
LIGHTWEIGHT FILL	CY	1,700
GRANULAR FILL	CY	115
SAWING AND SEALING JOINTS IN BITUMINOUS CONCRETE PAVEMENT	LF	51
HMA S0.5	TON	77
HMA S0.25	TON	39
REMOVAL OF SUPERSTRUCTURE (SITE NO. 1)	LS	LS
REMOVAL OF EXISTING CONCRETE SUBSTRUCTURE	LS	LS
SHEAR CONNECTORS (SITE NO. 1)	LS	LS
WELDED STUDS	EA	24
1-1/2" POLYVINYL CHLORIDE PLASTIC PIPE	LF	30
ASPHALTIC PLUG EXPANSION JOINT SYSTEM	CF	22
STEEL-LAMINATED ELASTOMERIC BEARINGS	EA	16
CLASS "A" CONCRETE	CY	885
CLASS "F" CONCRETE	CY	297
1/2" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES	SF	340
1" PREFORMED EXPANSION JOINT FILLER FOR BRIDGES	SF	85
DEFORMED STEEL BARS	LB	67,200
DEFORMED STEEL BARS - EPOXY COATED	LB	59,400
DOWEL BAR SPLICER SYSTEM	EA	120
DOWEL BAR SPLICER SYSTEM - EPOXY COATED	EA	90
STRUCTURAL STEEL (SITE NO.1)	LS	LS
BITUMINOUS COATING FOR STEEL PILES	LF	8,835
FURNISHING STEEL PILES	LB	937,900
PRE-AUGERING OF PILES	LF	4,400
DRIVING STEEL PILES	LF	11,170
POINT REINFORCEMENT FOR STEEL PILES	EA	138
TEST PILE (STEEL HP 12 X 84 - 85' LONG)	EA	2
TEST PILE (STEEL HP 12 X 84 - 90' LONG)	EA	2
DYNAMIC PILE DRIVING ANALYSIS (P.D.A.) TEST	EA	4
MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)	SY	700
DAMPPROOFING	SY	465
TEMPORARY EARTH RETAINING SYSTEM	SF	5,000
PRECAST CONCRETE BARRIER CURB ("F" SHAPE - SINGLE FACE)	LF	120
PRECAST CONCRETE BARRIER CURB ("F" SHAPE - DOUBLE FACE)	LF	40
2" RIGID METAL CONDUIT IN STRUCTURE	LF	150
18" X 12" X 8" CAST IRON JUNCTION BOX	EA	2

BEARING POINT COORDINATES		
DESCRIPTION	NORTHING	EASTING
A1-G1	839293.3120	1025967.9925
A1-G2	839293.0477	1025975.0709
A1-G3	839292.7833	1025982.1494
A1-G4	839292.5190	1025989.2277
A1-G5	839292.2546	1025996.3061
A1-G6	839291.9903	1026003.3846
A1-G7	839291.7259	1026010.4629
A1-G8	839291.4616	1026017.5413
A2-G1	839373.2563	1025970.9782
A2-G2	839372.9920	1025978.0565
A2-G3	839372.7276	1025985.1350
A2-G4	839372.4633	1025992.2134
A2-G5	839372.1989	1025999.2917
A2-G6	839371.9346	1026006.3702
A2-G7	839371.6702	1026013.4486
A2-G8	839371.4058	1026020.5269

WORKING POINT COORDINATES		
DESCRIPTION	NORTHING	EASTING
WP-1	839258.1481	1025966.4770
WP-2	839290.6414	1025965.8172
WP-3	839293.3936	1025965.8086
WP-4	839292.5003	1025989.7274
WP-5	839291.3456	1026020.6481
WP-6	839288.5931	1026020.6629
WP-7	839260.0997	1026021.2757
WP-8	839409.4293	1025972.2008
WP-9	839376.0818	1025969.0080
WP-10	839373.3379	1025968.7943
WP-11	839372.4446	1025992.7130
WP-12	839371.2898	1026023.6337
WP-13	839374.0335	1026023.8538
WP-14	839403.3958	1026026.7013
WP-15	839292.5221	1025989.1445
WP-16	839372.4664	1025992.1301

APPROACH SLAB COORDINATES		
DESCRIPTION	NORTHING	EASTING
AS-1	839274.5481	1025968.0154
AS-2	839290.5667	1025967.8175
AS-3	839274.1774	1025977.9418
AS-4	839290.1962	1025977.7361
AS-5	839273.7288	1025989.9539
AS-6	839289.7480	1025989.7385
AS-7	839273.7852	1025988.4447
AS-8	839289.7741	1025989.0419
AS-9	839272.6477	1026018.9020
AS-10	839288.6678	1026018.6623
AS-11	839376.0071	1025971.0084
AS-12	839391.9663	1025972.4006
AS-13	839375.6367	1025980.9270
AS-14	839391.5956	1025982.3269
AS-15	839375.1884	1025992.9294
AS-16	839391.1469	1025994.3391
AS-17	839375.2145	1025992.2328
AS-18	839391.2033	1025992.8299
AS-19	839374.1082	1026021.8532
AS-20	839390.0658	1026023.2871

GUTTER LINE COORDINATES		
DESCRIPTION	NORTHING	EASTING
GL-1	839293.3220	1025967.7255
GL-2	839291.4171	1026018.7311
GL-3	839373.2663	1025970.7111
GL-4	839371.3614	1026021.7167

CURVE NO. 1 DATA			
DESCRIPTION	NORTHING	EASTING	STATION
PC	838964.9694	1026045.8172	10+89.9528
PI	839371.8476	1025903.4766	15+21.0105
PT	839754.6995	1026101.5551	19+03.9335
DELTA	46° 38'15.6" RT	LENGTH	813.9807'
TANGENT	431.0577'	RADIUS	1000.000'

NOTES:

1. SEE ROADWAY PLANS FOR COMPLETE BASELINE GEOMETRY.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_04LAYOUT_PLAN.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT · JAMES C. HALL · 15 · LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE:
WORKING POINTS LAYOUT AND QUANTITIES

PROJECT NO. **042-304**
DRAWING NO. **S-04**
SHEET NO. **01.04.04**

GENERAL ERECTION NOTES

1. THE CONTRACTOR SHALL PREPARE AND SUBMIT A DETAILED ERECTION PLAN FOR ALL STRUCTURAL STEEL. THE PLAN SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT AND EXPERIENCED IN STEEL ERECTION.

2. THE CRANE LAYOUT IS CONCEPTUAL AND FOR INFORMATIONAL PURPOSES ONLY. THE TRAFFIC OPERATIONAL REQUIREMENTS FOR THE PROJECT, ACTUAL CRANE SIZE, CRANE TYPE, PICKING RADII, AND STEEL MASSES SHALL BE DEVELOPED BY THE CONTRACTOR. CRANES SHALL BE OPERATED IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF PUBLIC SAFETY REGULATIONS.

3. THE MAXIMUM WEIGHT OF PICK SHOWN REPRESENTS THE APPROXIMATE WEIGHT FOR AN 80 FOOT LONG TWO GIRDER PAIR WITHOUT APPLIED FACTOR OF SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE WEIGHT OF EACH LIFT AND ENSURING THE STABILITY OF EACH MEMBER DURING ALL PHASES OF ERECTION.

4. CONCEPTUAL LAYOUT DETERMINED FOR THIS PLAN DID NOT CONSIDER A REDUCTION DUE TO WIND. CONTRACTOR SHALL CONSIDER THE POTENTIAL REDUCTION IN CRANE CAPACITY DUE TO WIND SPEED.

5. STRUCTURAL STEEL MAY ONLY BE ERECTED DURING NIGHTTIME HOURS. TRAFFIC ON I-84 MAY BE STOPPED FOR A MAXIMUM DURATION OF 10 MINUTES. THE CONTRACTORS TRAFFIC CONTROL PLAN SHOULD BE SUBMITTED FOR APPROVAL PRIOR TO ERECTION.

6. STABILITY OF ALL GIRDERS IS TO BE MAINTAINED DURING ERECTION UNTIL ALL GIRDERS AND CROSS FRAMES ARE PROPERLY INSTALLED. ERECTION LOADS, INCLUDING SELF WEIGHT OF STEEL MEMBERS, WIND LOADING, AND CONSTRUCTION LIVE LOAD EFFECTS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY STRESSES AND DEFLECTIONS ON THE STEEL MEMBERS DURING ALL PHASES OF CONSTRUCTION.

7. MEMBERS SHALL BE SUBJECT TO ONLY LIGHT DRIFTING IN ORDER TO ALIGN HOLES. ANY DRIFTING THAT RESULTS IN DISTORTION OF THE MEMBER OR DAMAGE TO THE HOLES WILL BE CAUSE FOR REJECTION OF THE MEMBER.

8. REFER TO ROADWAY PLANS FOR LOCATIONS AND TYPES OF OVERHEAD AND UNDERGROUND UTILITIES AND DRAINAGE.

ERECTION PLAN

SCALE: 1" = 20'

CRANE DATA USED TO DEVELOP THIS PLAN

CRANE:	GROVE GMK 6300L
CRANE DESCRIPTION:	300-TON HYDRAULIC MOBILE TELESCOPING CRANE
RIGGING WEIGHT:	203,900LB (APPROXIMATE)
MAX. WEIGHT OF PICK:	35,000 LB (GIRDER PAIR-APPROXIMATE)
MAX. BOOM LENGTH:	156 FT
MAX. ANTICIPATED RADIUS:	123 FT

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SCALE AS NOTED

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Filename: ...\SB_MSH_Br02374_05ERECT_PLAN.dgn

SIGNATURE/BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:

REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **ERECTION PLAN**

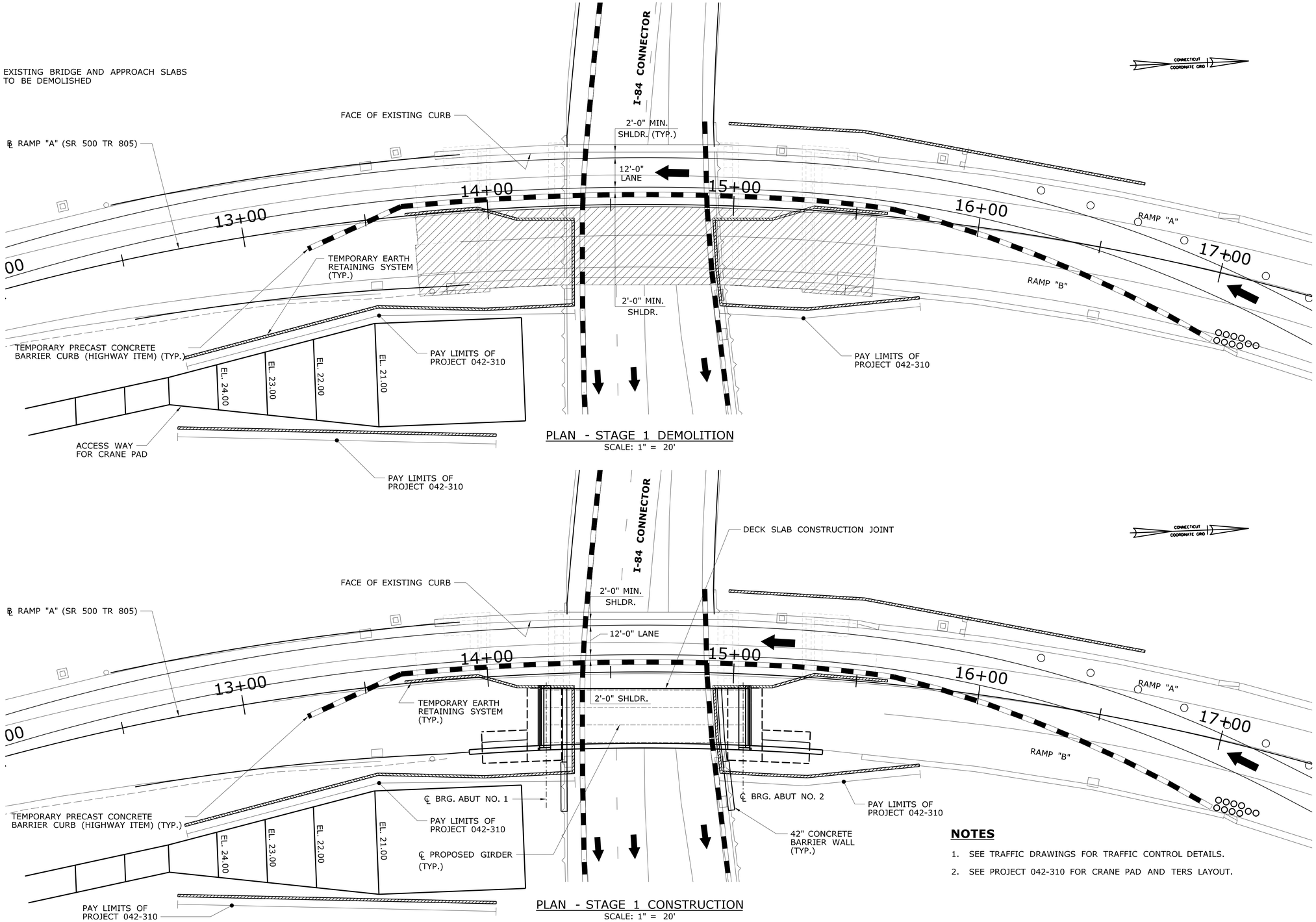
PROJECT NO. **042-304**

DRAWING NO. **S-05**

SHEET NO. **01.04.05**

LEGEND

EXISTING BRIDGE AND APPROACH SLABS TO BE DEMOLISHED



PLAN - STAGE 1 DEMOLITION

SCALE: 1" = 20'

PLAN - STAGE 1 CONSTRUCTION

SCALE: 1" = 20'

NOTES

1. SEE TRAFFIC DRAWINGS FOR TRAFFIC CONTROL DETAILS.
2. SEE PROJECT 042-310 FOR CRANE PAD AND TERS LAYOUT.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_06PLAN_STAGE_1.dgn

SIGNATURE/ BLOCK:

JAMES C. HALLER — LICENSE — PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **STAGED CONSTRUCTION PLANS (1 OF 2)**

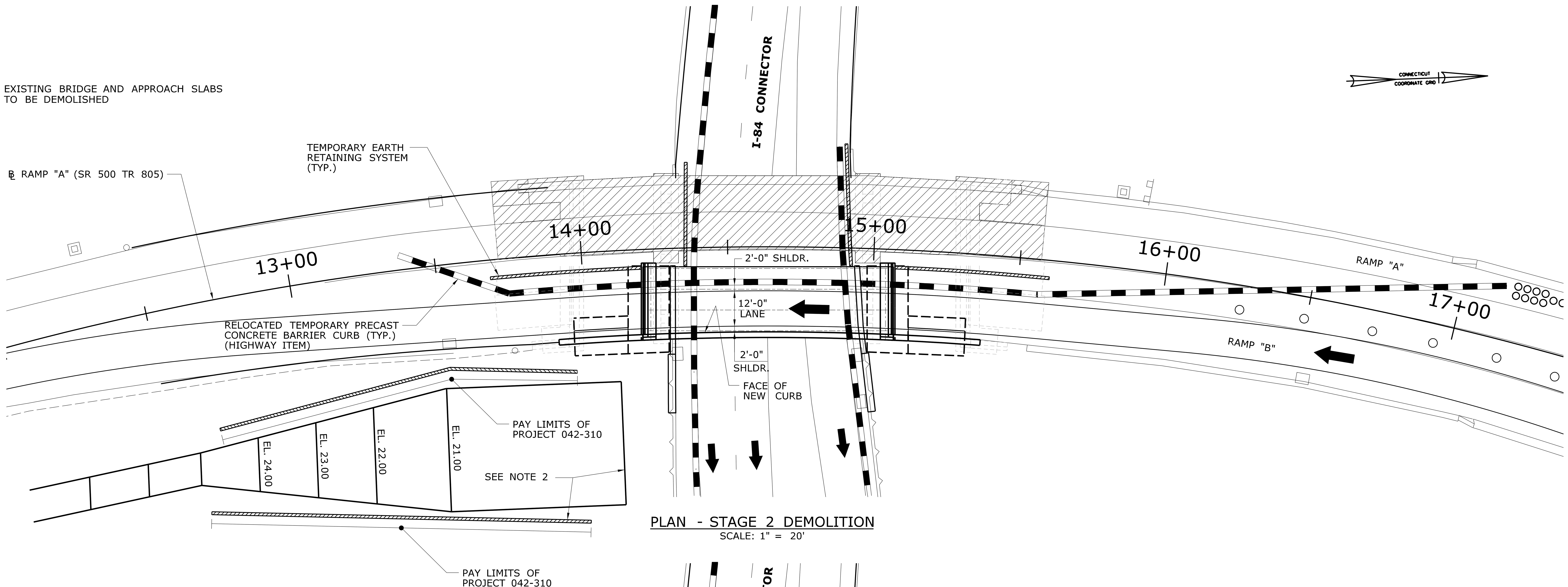
PROJECT NO. **042-304**

DRAWING NO. **S-06**

SHEET NO. **01.04.06**

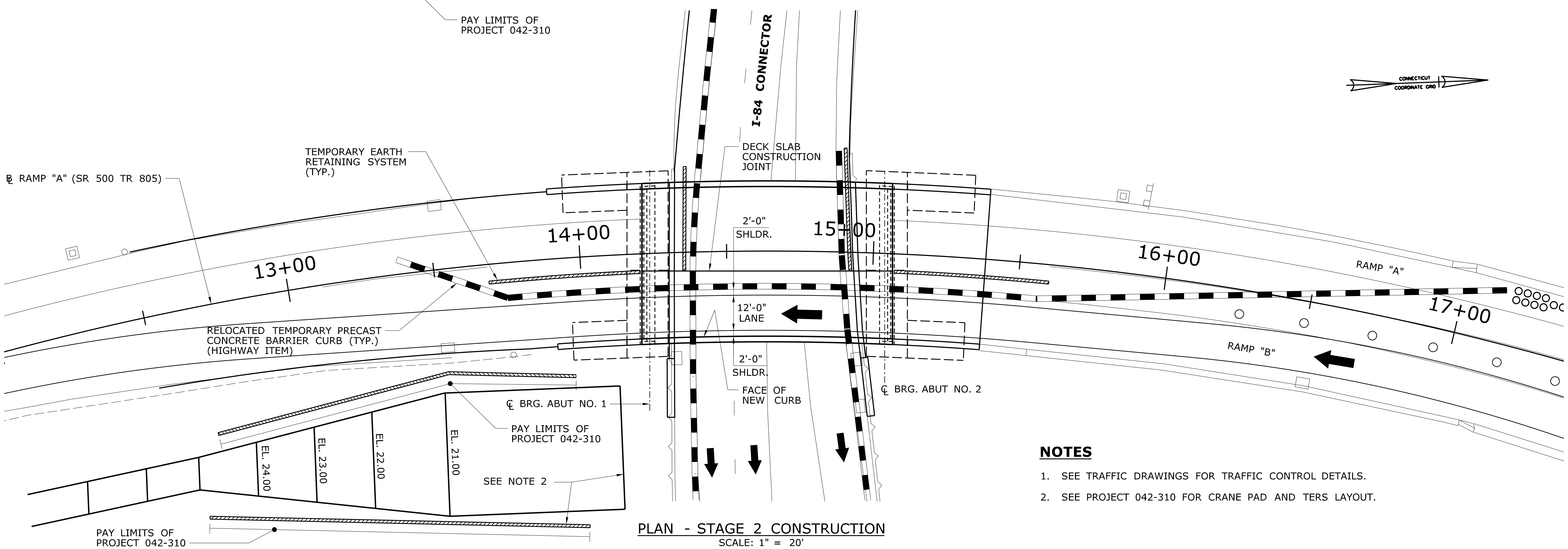
LEGEND

(hatched box) EXISTING BRIDGE AND APPROACH SLABS TO BE DEMOLISHED



PLAN - STAGE 2 DEMOLITION

SCALE: 1" = 20'



PLAN - STAGE 2 CONSTRUCTION

SCALE: 1" = 20'

NOTES

1. SEE TRAFFIC DRAWINGS FOR TRAFFIC CONTROL DETAILS.
2. SEE PROJECT 042-310 FOR CRANE PAD AND TERS LAYOUT.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_07PLAN_STAGE_2.dgn

SIGNATURE/ BLOCK: STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE: **REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833**

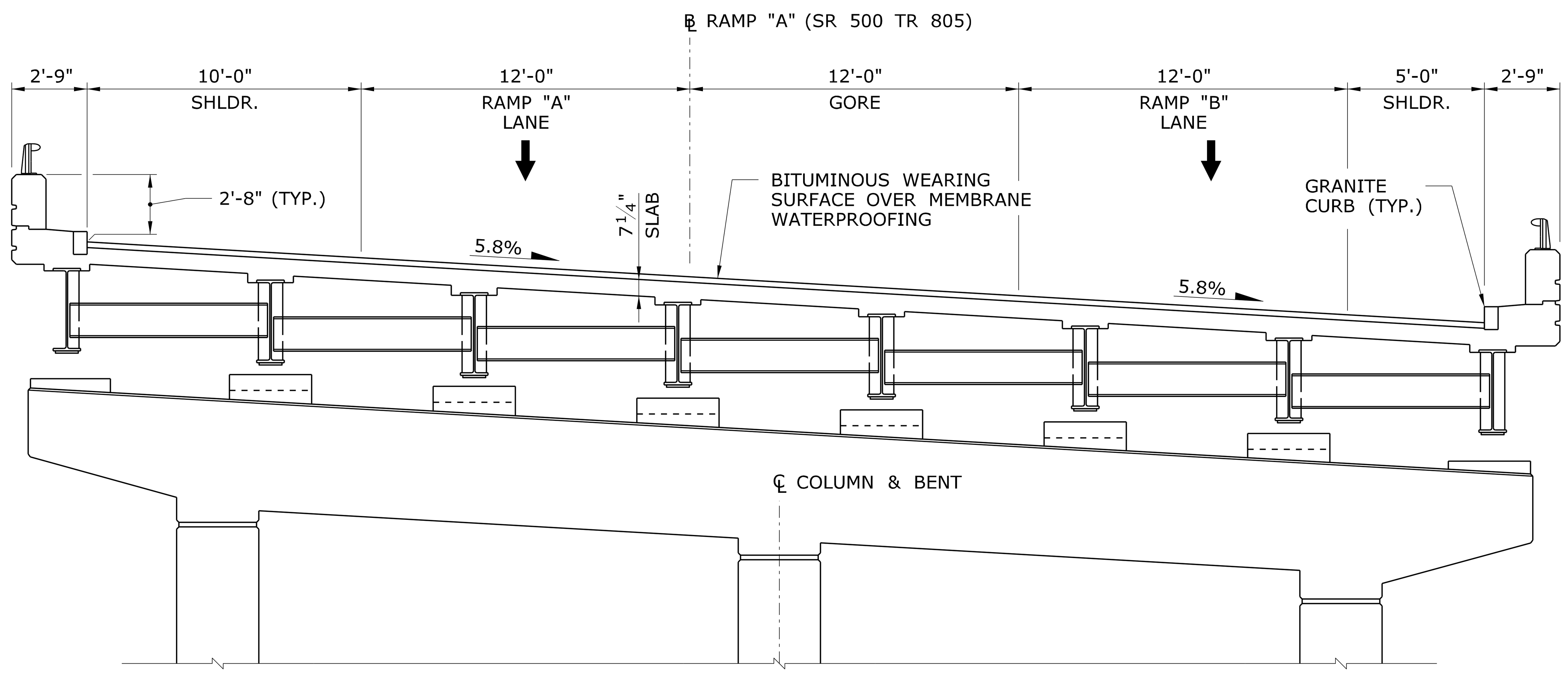
TOWN: **EAST HARTFORD**

DRAWING TITLE: **STAGED CONSTRUCTION PLANS (2 OF 2)**

PROJECT NO. **042-304**

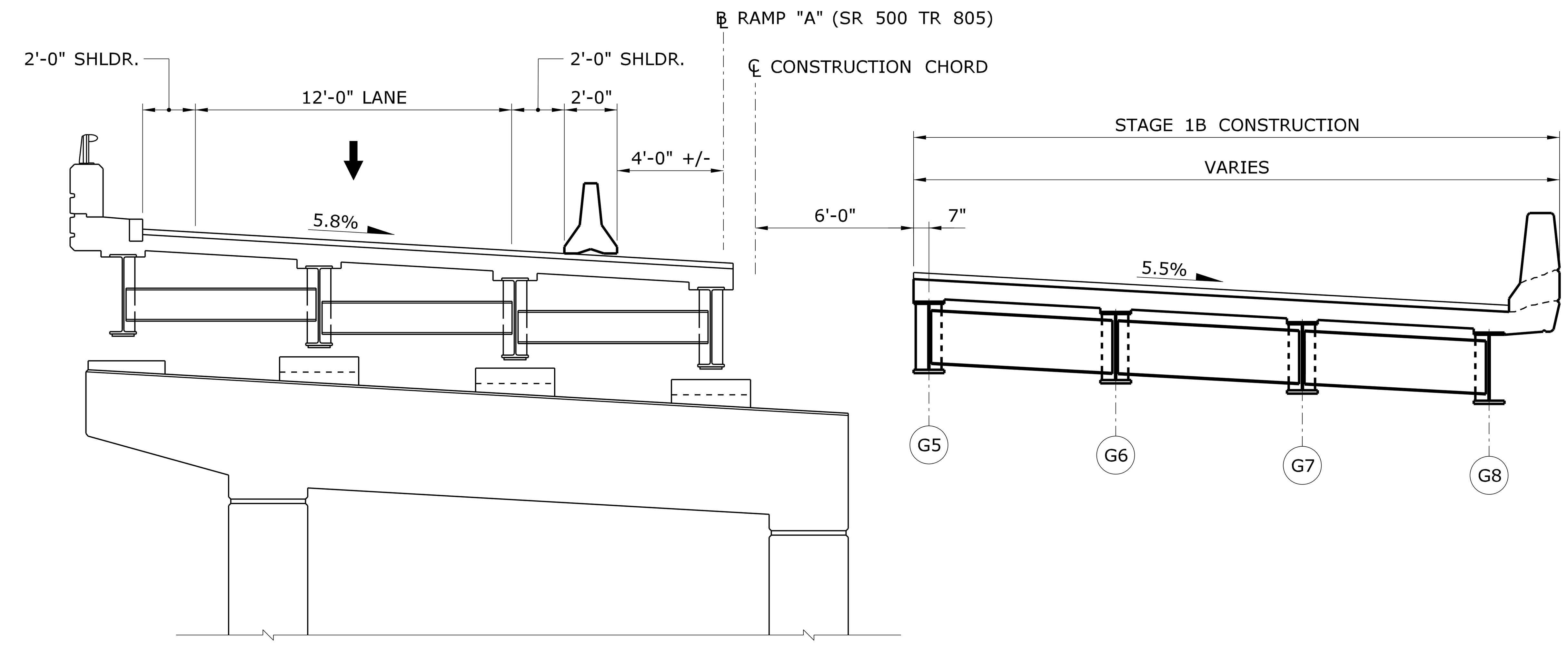
DRAWING NO. **S-07**

SHEET NO. **01.04.07**



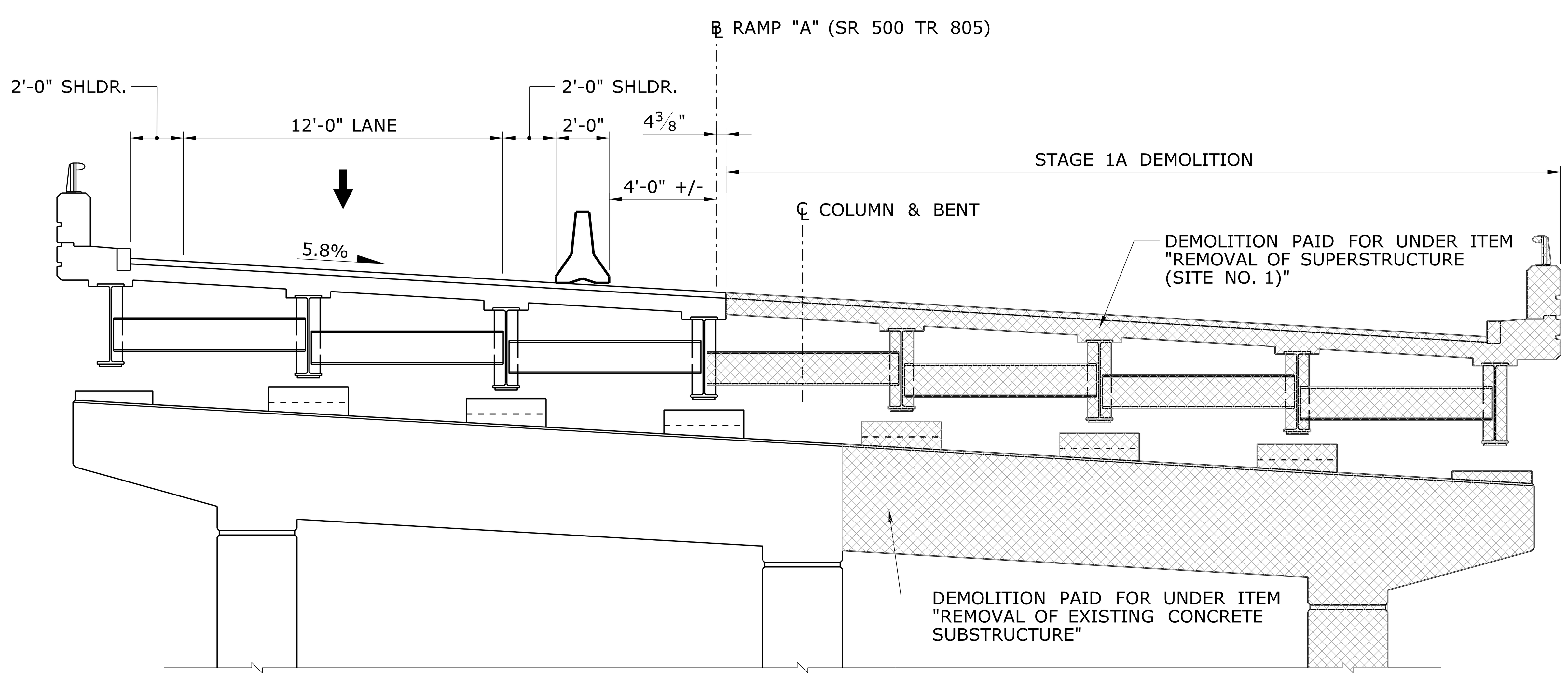
EXISTING CONDITION

SCALE: ¼" = 1'-0"
(PIER 2 SHOWN)



STAGE 1B CONSTRUCTION

SCALE: ¼" = 1'-0"
(PIER 2 SHOWN)



STAGE 1A CONSTRUCTION

SCALE: ¼" = 1'-0"
(PIER 2 SHOWN)

LEGEND

TO BE DEMOLISHED

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_08CON_STAGE_1.dgn

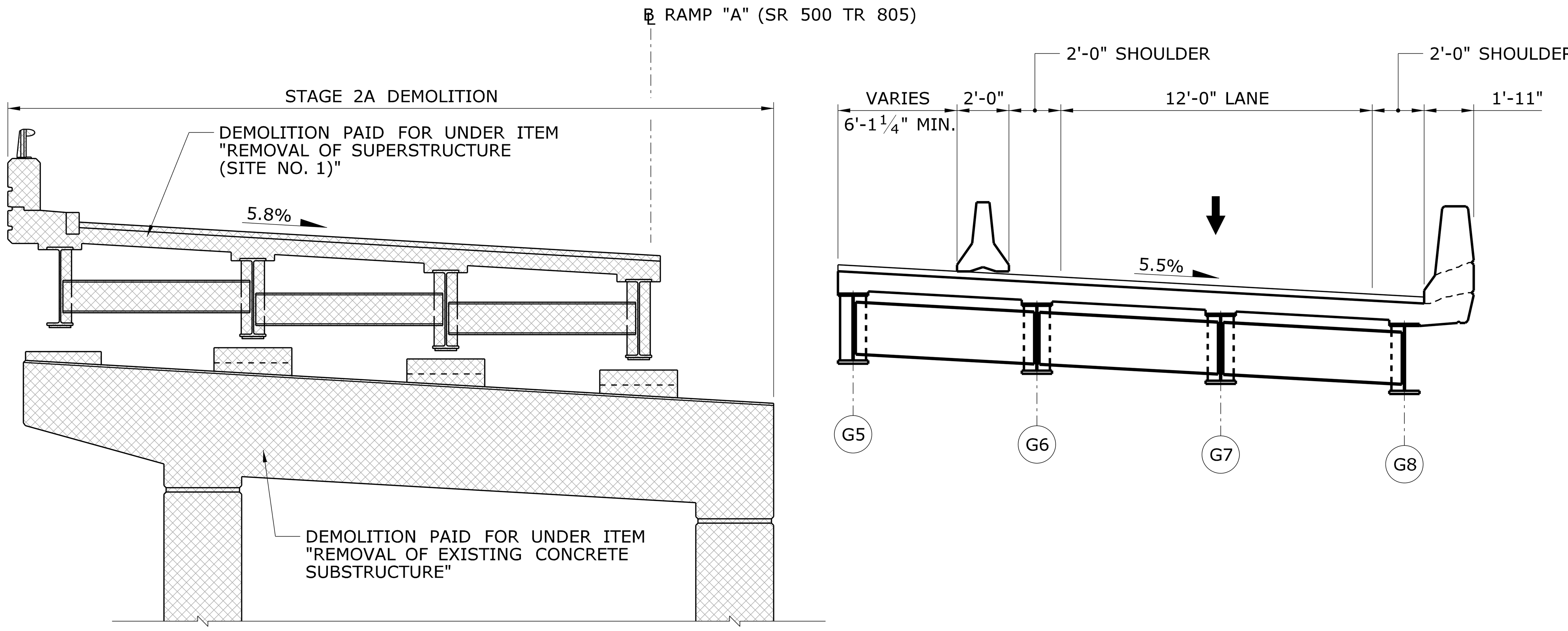
SIGNATURE/ BLOCK:
STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

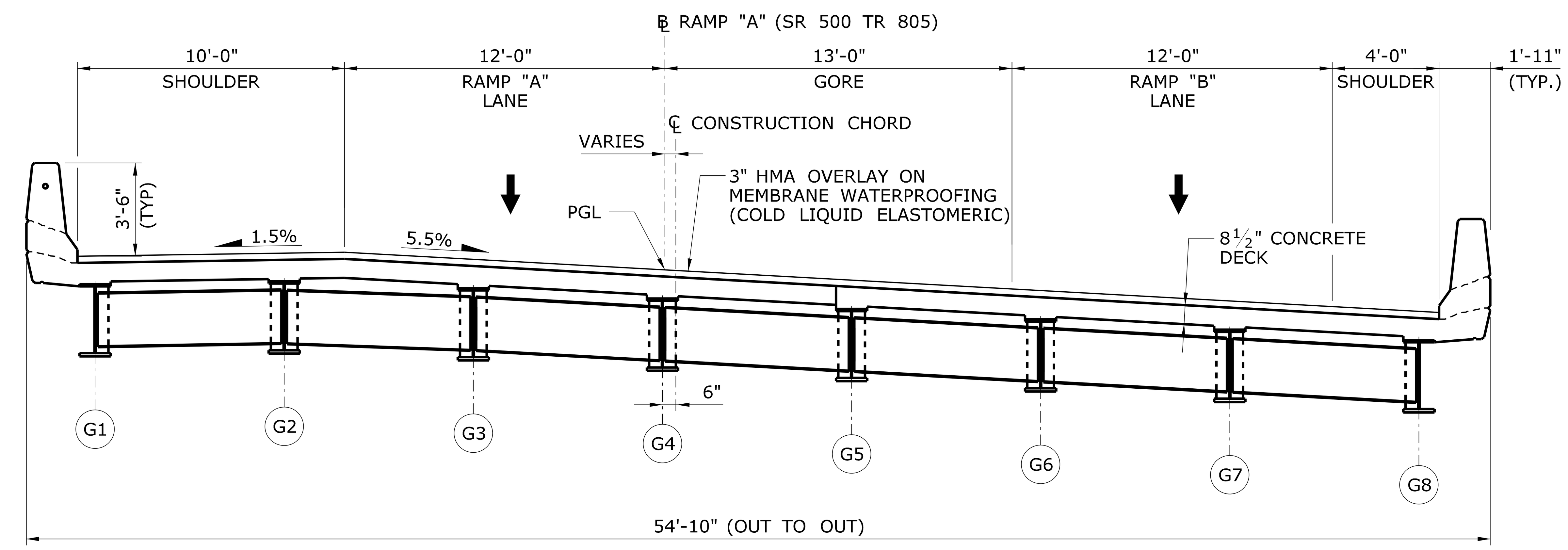
TOWN: **EAST HARTFORD**

DRAWING TITLE: **STAGED CONSTRUCTION DETAILS (1 OF 2)**

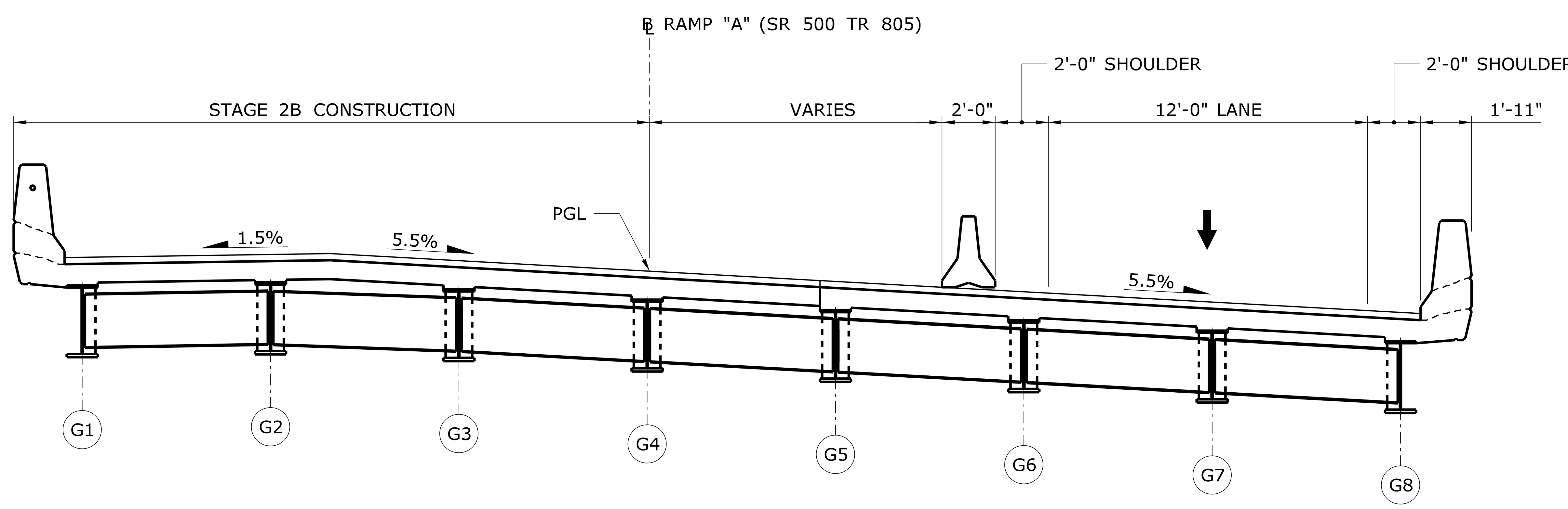
PROJECT NO. **042-304**
DRAWING NO. **S-08**
SHEET NO. **01.04.08**



STAGE 2A CONSTRUCTION
SCALE: 1/4" = 1'-0"
(PIER 2 SHOWN)



FINAL CONDITION
SCALE: 1/4" = 1'-0"



STAGE 2B CONSTRUCTION
SCALE: 1/4" = 1'-0"
(PIER 2 SHOWN)

LEGEND

TO BE DEMOLISHED

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_09CON_STAGE_2.dgn

SIGNATURE/ BLOCK:
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **STAGED CONSTRUCTION DETAILS (2 OF 2)**

PROJECT NO. **042-304**
DRAWING NO. **S-09**
SHEET NO. **01.04.09**

Connecticut DOT Boring Report

Driller: Ken Smith	**Connecticut DOT Boring Report**	Hole No.: B-1
Inspector: Brett McKiernan	Town: East Hartford	Stat./Offset: 15+64/23ft RT
Engineer: Brett McKiernan	Project No.: 42-304	Northing: 339387.9
Start Date: 3-21-14	Route No.: 2	Easting: 625895.9
Finish Date: 3-24-14	Bridge No.: 02374	Surface Elevation: 34.5
Project Description: Replacement of Bridge No. 02374		
Casing Size/Type: 4in HW	Sampler Type/Size: 2in SS	Core Barrel Type:
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.	
Groundwater Observations: @23 after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						PAVEMENT STRUCTURE / MISC. FILL	10" Pavement	
5	S-1	10 11 9 11	24	14			Red-Brown F-C SAND, some Silt, tr. f Gravel	30
10	S-2	3 2 2 3	24	10			Red-Brown F-C SAND, little Silt, little f-m Gravel	25
15	S-3	4 6 6 8	24	10			Red-Brown F-C SAND, little Silt, tr. f Gravel	20
20	S-4	10 13 20 19	24	14			Green-Brown/Red F-C SAND, some Silt, some c-f Gravel, tr. Concrete	15
						CLAYEY SILT		
25	S-5	5 3 4 6	24	18			Green-Gray SILTY CLAY tr. Organics	10
30	S-6	3 2 1 2	24	2			Green-gray CLAYEY SILT, tr. f Sand	5
						SAND		0
35	S-7	5 3 3 5	24	10			Gray F-C SAND, tr. Silt	
40								-5

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 72ft Rock: 0ft	NOTES: Pushed casing 30' to 35' without hammer. Pushed Shelby tube 70'-72,' allowed to sit for 10 min, turned tube, allowed to sit for 10min, and then pulled rod during which the tube fell off.	Sheet 1 of 2
No. of Soil Samples: 14 No. of Core Runs: 0		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller: Ken Smith	**Connecticut DOT Boring Report**	Hole No.: B-1
Inspector: Brett McKiernan	Town: East Hartford	Stat./Offset: 15+64/23ft RT
Engineer: Brett McKiernan	Project No.: 42-304	Northing: 339387.9
Start Date: 3-21-14	Route No.: 2	Easting: 625895.9
Finish Date: 3-24-14	Bridge No.: 02374	Surface Elevation: 34.5
Project Description: Replacement of Bridge No. 02374		
Casing Size/Type: 4in HW	Sampler Type/Size: 2in SS	Core Barrel Type:
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.	
Groundwater Observations: @23 after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
40	S-8	7 7 6 8	24	12		SAND *(con't)*	Gray C-F SAND tr. Silt, tr. f Gravel	-10
45	S-9	7 9 9 10	24	9			Gray C-F SAND, tr. m-f Gravel, tr. Silt	
						GRAVELLY SAND		-15
50	S-10	7 6 4 7	24	9			Gray C-F SAND, little m-f Gravel, tr. Silt	-20
55	S-11	9 4 2 4	24	12		VARVED CLAY	Top 3": Gray C-F SAND, little m-f Gravel, tr. Silt Bottom 9" Red-Brown VARVED CLAY	-25
60	UP-1		24	24			Red-Brown VARVED CLAY	-30
65	S-12	WORWORWOH 3	24	24			Red-Brown VARVED CLAY	-35
70	UP-2		24	0			Red-Brown VARVED CLAY	
							END OF BORING 72ft	-40
75								
80								-45

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 72ft Rock: 0ft	NOTES: Pushed casing 30' to 35' without hammer. Pushed Shelby tube 70'-72,' allowed to sit for 10 min, turned tube, allowed to sit for 10min, and then pulled rod during which the tube fell off.	Sheet 2 of 2
No. of Soil Samples: 14 No. of Core Runs: 0		SM-001-M REV. 1/02

NOTES:

1. BORING LOGS WERE RECORDED AND EDITED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
2. FOR BORING LOG LOCATIONS, SEE SHEET S-2

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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-	-	-	-
-	-	-	-

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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_10BOR_LOG_1.dgn

SIGNATURE/ BLOCK:
STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE: **REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833**

TOWN: **EAST HARTFORD**

DRAWING TITLE: **BORING LOGS (1 OF 4)**

PROJECT NO. **042-304**
DRAWING NO. **S-10**
SHEET NO. **01.04.10**

Driller: Orrin Cone	**Connecticut DOT Boring Report**		Hole No.: B-2
Inspector: Glenn L. Arzt	Town: East Hartford		Stat./Offset: 15+04/49ft RT
Engineer: Brett McKiernan	Project No.: 42-304		Northing: 339326.7
Start Date: 3-24-14	Route No.: 2		Easting: 625916.1
Finish Date: 3-26-14	Bridge No.: 02374		Surface Elevation: 17.1
Project Description: Replacement of Bridge No. 02374			
Casing Size/Type: 4in HW	Sampler Type/Size: 2in SS		Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.		
Groundwater Observations: @15 after 0 hours			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						MISC. FILL		15
5	S-1	5 5 5 6	24	9			Red-Brown F-C SAND, some Silt, tr. f-m Gravel, tr. Organics	10
10	S-2	6 5 6 6	24	18		CLAYEY SILT	Gray CLAYEY SILT	5
15	S-3	4 7 10 11	24	16		SILTY SAND	Gray F SAND and SILT	0
20	S-4	5 5 2 7	24	10		SAND	Gray F-C SAND, little Silt, tr. c-f Gravel	-5
25	S-5	3 6 5 9	24	6			Gray F-C SAND, tr. Silt	-10
30	S-6	8 14 15 14	24	12		GRAVELLY SAND	Gray-Brown C-F SAND, little c-f Gravel, tr. Silt	-15
35	S-7	10 10 12 15	24	12			Gray-Brown C-F SAND, some f-c Gravel, tr. Silt	-20
40						VARVED CLAY		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 86ft Rock: 10ft	NOTES:	Sheet 1 of 3
No. of Soil Samples: 17 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller: Orrin Cone	**Connecticut DOT Boring Report**		Hole No.: B-2
Inspector: Glenn L. Arzt	Town: East Hartford		Stat./Offset: 15+04/49ft RT
Engineer: Brett McKiernan	Project No.: 42-304		Northing: 339326.7
Start Date: 3-24-14	Route No.: 2		Easting: 625916.1
Finish Date: 3-26-14	Bridge No.: 02374		Surface Elevation: 17.1
Project Description: Replacement of Bridge No. 02374			
Casing Size/Type: 4in HW	Sampler Type/Size: 2in SS		Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.		
Groundwater Observations: @15 after 0 hours			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
40	S-8	WOH/WOH/WOH 3	24	24		VARVED CLAY *(con't)*	Red-Brown VARVED CLAY	-25
45	S-9	WOH/WOH 1 2	24	24			Red-Brown VARVED CLAY	-30
50	S-10	WOR/WOR 1 2	24	24			Red-Brown VARVED CLAY	-35
55	S-11	WOR/WOR/WOR 1	24	24			Red-Brown VARVED CLAY	-40
60	S-12	WOR/WOR 1 2	24	24			Red-Brown VARVED CLAY	-45
65	S-13	WOR/WOR 1 1	24	24			Red-Brown VARVED CLAY	-50
70	S-14	WOR/WOR 1 2	24	24			Red-Brown VARVED CLAY	-55
75	S-15	WOR 1 1 1	24	24			Red-Brown VARVED CLAY	-60
80								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 86ft Rock: 10ft	NOTES:	Sheet 2 of 3
No. of Soil Samples: 17 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller: Orrin Cone	**Connecticut DOT Boring Report**		Hole No.: B-2
Inspector: Glenn L. Arzt	Town: East Hartford		Stat./Offset: 15+04/49ft RT
Engineer: Brett McKiernan	Project No.: 42-304		Northing: 339326.7
Start Date: 3-24-14	Route No.: 2		Easting: 625916.1
Finish Date: 3-26-14	Bridge No.: 02374		Surface Elevation: 17.1
Project Description: Replacement of Bridge No. 02374			
Casing Size/Type: 4in HW	Sampler Type/Size: 2in SS		Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.		
Groundwater Observations: @15 after 0 hours			

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
80	S-16	42 35 29 30	24	18		GLACIAL TILL *(con't)*	Red-Brown CLAYEY SILT, some f-c Gravel, tr. f-c Sand	-65
85	S-17	80	1	1		BEDROCK	Red-Brown F-C SAND, some f-c Gravel, little(+) Clayey Silt	-70
90	C-1		60	46	24.2		Red fine grained laminated highly fractured moderately weathered and strong SILTSTONE. Core times(min): 8.5, 11.5, 9.5, 6, 4.5	-75
95	C-2		60	60	22.5		Red fine grained laminated highly fractured moderately weathered and strong SILTSTONE. Core times(min); 4.5, 6.5, 4.5, 6, 3.5	-80
100							END OF BORING 96ft	-85
105								-90
110								-95
115								-100
120								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 86ft Rock: 10ft	NOTES:	Sheet 3 of 3
No. of Soil Samples: 17 No. of Core Runs: 2		SM-001-M REV. 1/02

NOTES:

1. BORING LOGS WERE RECORDED AND EDITED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
2. FOR BORING LOG LOCATIONS, SEE SHEET S-2

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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-	-	-	-
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-	-	-	-
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_11BOR_LOG_2.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALL 15 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **BORING LOGS (2 OF 4)**

PROJECT NO. **042-304**
DRAWING NO. **S-11**
SHEET NO. **01.04.11**

Connecticut DOT Boring Report (Sheet 1 of 3)

Driller: Ken Smith	**Connecticut DOT Boring Report**	Hole No.: B-3
Inspector: Glenn L. Arzt	Town: East Hartford	Stat./Offset: 14+39/51ft LT
Engineer: Brett McKiernan	Project No.: 42-304	Northing: 339267.9
Start Date: 3-28-14	Route No.: 2	Easting: 625813
Finish Date: 4-2-14	Bridge No.: 02374	Surface Elevation: 16.8
Project Description: Replacement of Bridge No. 02374		
Casing Size/Type: 4in/3in	Sampler Type/Size: 2in SS	Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.	
Groundwater Observations: @7 after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						PAVEMENT STRUCTURE / MISC. FILL		15
5	S-1	4 3 2 4	24	18		CLAYEY SILT	Green-Gray CLAYEY SILT	10
10	S-2	1 0 1 1	24	23		SILTY SAND	Green-Gray F-C SAND, some Silt	5
15	S-3	1 1 4 5	24	15		SAND	Gray-Green F-C SAND, tr. Silt	0
20	S-4	4 5 5 8	24	12			Gray-Green F-C SAND, tr. Silt	-5
25	S-5	15 26 9 11	24	24			Gray F-C SAND, tr. Silt	-10
30	S-6	6 8 10 10	24	11		GRAVELLY SAND	Gray C-F SAND, little(+) m-f Gravel, tr. Silt	-15
35	S-7	17 36 67 25	24	18			Gray C-F SAND, little m-f Gravel, tr. Silt	-20
40						VARVED CLAY		

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 90ft Rock: 15ft	NOTES: 4" Casing could not be driven past 75.' Cored C-1 and C-2 with casing at 75' but could not maintain an open hole to 95.' Telescoped 3" casing down to 95' and began C-3. Core barrel clogged at possible clay seams in the bedrock during C-3, C-4	Sheet 1 of 3
No. of Soil Samples: 16 No. of Core Runs: 4		SM-001-M REV. 1/02

Connecticut DOT Boring Report (Sheet 2 of 3)

Driller: Ken Smith	**Connecticut DOT Boring Report**	Hole No.: B-3
Inspector: Glenn L. Arzt	Town: East Hartford	Stat./Offset: 14+39/51ft LT
Engineer: Brett McKiernan	Project No.: 42-304	Northing: 339267.9
Start Date: 3-28-14	Route No.: 2	Easting: 625813
Finish Date: 4-2-14	Bridge No.: 02374	Surface Elevation: 16.8
Project Description: Replacement of Bridge No. 02374		
Casing Size/Type: 4in/3in	Sampler Type/Size: 2in SS	Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.	
Groundwater Observations: @7 after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
40	S-8	WORWOR 1 2	24	24		VARVED CLAY *(con't)*	Red-Brown VARVED CLAY	-25
45	UP-1		24	24			Red-Brown VARVED CLAY	-30
50	S-9	WOH 1 1 3	24	24			Red-Brown VARVED CLAY	-35
55	UP-2		24	24			Red-Brown VARVED CLAY	-40
60	S-10	WORWOR 1 2	24	24			Red-Brown VARVED CLAY	-45
65	S-11	WOR 1 2 3	24	24			Red-Brown VARVED CLAY	-50
70	S-12	WORWOR 2 3	24	24			Red-Brown VARVED CLAY	-55
75	S-13	7 10 14 12	24	5		GLACIAL TILL	Red-Brown CLAYEY SILT and C-F GRAVEL, tr. f Sand	-60
80								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 90ft Rock: 15ft	NOTES: 4" Casing could not be driven past 75.' Cored C-1 and C-2 with casing at 75' but could not maintain an open hole to 95.' Telescoped 3" casing down to 95' and began C-3. Core barrel clogged at possible clay seams in the bedrock during C-3, C-4	Sheet 2 of 3
No. of Soil Samples: 16 No. of Core Runs: 4		SM-001-M REV. 1/02

Connecticut DOT Boring Report (Sheet 3 of 3)

Driller: Ken Smith	**Connecticut DOT Boring Report**	Hole No.: B-3
Inspector: Glenn L. Arzt	Town: East Hartford	Stat./Offset: 14+39/51ft LT
Engineer: Brett McKiernan	Project No.: 42-304	Northing: 339267.9
Start Date: 3-28-14	Route No.: 2	Easting: 625813
Finish Date: 4-2-14	Bridge No.: 02374	Surface Elevation: 16.8
Project Description: Replacement of Bridge No. 02374		
Casing Size/Type: 4in/3in	Sampler Type/Size: 2in SS	Core Barrel Type: NX
Hammer Wt.: 300lb Fall: 30in.	Hammer Wt.: 140lb Fall: 30in.	
Groundwater Observations: @7 after 0 hours		

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
80	S-14	78 65	9	9		GLACIAL TILL *(con't)*	Red-Brown C-F GRAVEL, some c-f Sand, little Clayey Silt	-65
85	C-1		60	3	0		Red Cobbles (GLACIAL TILL). Core times(min); 2.5, 2.5, 4, 4.5, 3	-70
90	C-2		60	29	0	BEDROCK	Red fine grained laminated intensely fractured moderately weathered and strong SHALE. Core times(min); 3, 7.5, 4.5, 5.5, 5	-75
95	C-3		60	60	49.2		Red fine grained laminated moderately fractured slightly weathered and strong SILTSTONE/SHALE w/0.5" clay seam at 2ft. Core times(min); 3, 7.5, 9, 4, 4	-80
100	C-4		60	57	42.5		Red fine grained laminated highly fractured moderately weathered and medium strong SHALE w/ 0.5"-3" clay seams. Core times(min); 4, 4.5, 4, 3, 6	-85
105							END OF BORING 105ft	-90
110								-95
115								-100
120								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 90ft Rock: 15ft	NOTES: 4" Casing could not be driven past 75.' Cored C-1 and C-2 with casing at 75' but could not maintain an open hole to 95.' Telescoped 3" casing down to 95' and began C-3. Core barrel clogged at possible clay seams in the bedrock during C-3, C-4	Sheet 3 of 3
No. of Soil Samples: 16 No. of Core Runs: 4		SM-001-M REV. 1/02

NOTES:

1. BORING LOGS WERE RECORDED AND EDITED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
2. FOR BORING LOG LOCATIONS, SEE SHEET S-2

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_12BOR_LOG_3.dgn

SIGNATURE/ BLOCK:
STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **BORING LOGS (3 OF 4)**

PROJECT NO. **042-304**
DRAWING NO. **S-12**
SHEET NO. **01.04.12**

Driller:	Ken Smith	**Connecticut DOT Boring Report**		Hole No.:	B-4
Inspector:	Brett McKiernan	Town:	East Hartford	Stat./Offset:	13+64/19ft RT
Engineer:	Brett McKiernan	Project No.:	42-304	Northing:	339192.4
Start Date:	3-24-14	Route No.:	2	Easting:	625885.1
Finish Date:	3-26-14	Bridge No.:	02374	Surface Elevation:	35.7
Project Description:	Replacement of Bridge No. 02374				
Casing Size/Type:	4in HW	Sampler Type/Size:	2in SS	Core Barrel Type:	NX
Hammer Wt.:	300lb Fall: 30in.	Hammer Wt.:	140lb Fall: 30in.		
Groundwater Observations:	@25 after 0 hours				

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						PAVEMENT STRUCTURE/ MISC. FILL	11" Asphalt	35
5	S-1	15 21 28 25	24	14			Red-Brown F-C SAND, little (+) Silt, little c-f Gravel	30
10	S-2	15 16 20 25	24	13			Red-Brown F-C SAND, little (+) Silt, little c-f Gravel	25
15	S-3	4 4 6 9	24	12			Red-Brown/Gray F-C SAND, some Silt, little c-f Gravel	20
20	S-4	14 26 40 45	24	14		CLAYEY SILT	Top 12" Red-Brown F-C SAND, little (+) Silt, tr. f Gravel Bottom 2" Black F-C SAND and SILT, tr. Organics	15
25	S-5	4 5 4 4	24	19			Green-Brown CLAYEY SILT, tr. Organics	10
30	S-6	1 1 1 1	24	20		SILTY SAND	Green-Brown F-C SAND and SILT	5
35	S-7	10 9 9 9	24	0		SAND		0
40								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 110ft Rock: 5ft	NOTES: Drillers drove casing, took sample, and then took two samples with an open hole and only advanced casing again after every third sample. Rod was wabbling during C-1, resulted in slow core times. Possible bent rod.	Sheet 1 of 3
No. of Soil Samples: 22 No. of Core Runs: 1		SM-001-M REV. 1/02

Driller:	Ken Smith	**Connecticut DOT Boring Report**		Hole No.:	B-4
Inspector:	Brett McKiernan	Town:	East Hartford	Stat./Offset:	13+64/19ft RT
Engineer:	Brett McKiernan	Project No.:	42-304	Northing:	339192.4
Start Date:	3-24-14	Route No.:	2	Easting:	625885.1
Finish Date:	3-26-14	Bridge No.:	02374	Surface Elevation:	35.7
Project Description:	Replacement of Bridge No. 02374				
Casing Size/Type:	4in HW	Sampler Type/Size:	2in SS	Core Barrel Type:	NX
Hammer Wt.:	300lb Fall: 30in.	Hammer Wt.:	140lb Fall: 30in.		
Groundwater Observations:	@25 after 0 hours				

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
40	S-8	9 10 11 14	24	12		SAND *(con't)*	Gray-Brown F-C SAND, tr. Silt, tr. f Gravel	-5
45	S-9	6 8 14 13	24	10			Gray-Brown F-C SAND, tr. Silt, tr. f-m Gravel	-10
50	S-10	12 15 14 15	24	9		GRAVELLY SAND	Gray-Brown F-C SAND, tr. Silt, tr. c-f Gravel	-15
55	S-11	7 4 4 4	24	20		VARVED CLAY	Top 2" Gray-Brown F-C SAND, little m-f Gravel, tr. Silt Bottom 18" Red-Brown VARVED CLAY	-20
60	S-12	WORWORWOR 3	24	24			Red-Brown VARVED CLAY	-25
65	S-13	WORWORWOR 2	24	24			Red-Brown VARVED CLAY	-30
70	S-14	WORWOR 2 3	24	24			Red-Brown VARVED CLAY	-35
75	S-15	WORWORWORWOR	24	8			Red-Brown VARVED CLAY	-40
80								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 110ft Rock: 5ft	NOTES: Drillers drove casing, took sample, and then took two samples with an open hole and only advanced casing again after every third sample. Rod was wabbling during C-1, resulted in slow core times. Possible bent rod.	Sheet 2 of 3
No. of Soil Samples: 22 No. of Core Runs: 1		SM-001-M REV. 1/02

Driller:	Ken Smith	**Connecticut DOT Boring Report**		Hole No.:	B-4
Inspector:	Brett McKiernan	Town:	East Hartford	Stat./Offset:	13+64/19ft RT
Engineer:	Brett McKiernan	Project No.:	42-304	Northing:	339192.4
Start Date:	3-24-14	Route No.:	2	Easting:	625885.1
Finish Date:	3-26-14	Bridge No.:	02374	Surface Elevation:	35.7
Project Description:	Replacement of Bridge No. 02374				
Casing Size/Type:	4in HW	Sampler Type/Size:	2in SS	Core Barrel Type:	NX
Hammer Wt.:	300lb Fall: 30in.	Hammer Wt.:	140lb Fall: 30in.		
Groundwater Observations:	@25 after 0 hours				

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
80	S-16	WORWORWOR 3	24	24		VARVED CLAY *(con't)*	Red-Brown VARVED CLAY	-45
85	S-17	WORWORWOR 4	24	24			Red-Brown VARVED CLAY	-50
90	S-18	WORWOR 2 3	24	12			Red-Brown VARVED CLAY	-55
95	S-19	WORWORWOR 2	24	14			Red-Brown VARVED CLAY	-60
100	S-20	4 6 18 19	24	3		GLACIAL TILL	Red-Brown CLAYEY SILT, some c-f Gravel, little c-f Sand	-65
105	S-21	50	1	1			Gray Rock Fragments	-70
110	S-22	50	1	0		BEDROCK	Red fine grained laminated intensely fractured moderately weathered strong SILTSTONE with clay seams to bottom. Core times(min): 8, 12, 14, 15, 12/10"	-75
115	C-1		58	48	16.4			-80
120							END OF BORING 115ft	

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 110ft Rock: 5ft	NOTES: Drillers drove casing, took sample, and then took two samples with an open hole and only advanced casing again after every third sample. Rod was wabbling during C-1, resulted in slow core times. Possible bent rod.	Sheet 3 of 3
No. of Soil Samples: 22 No. of Core Runs: 1		SM-001-M REV. 1/02

NOTES:

1. BORING LOGS WERE RECORDED AND EDITED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION.
2. FOR BORING LOG LOCATIONS, SEE SHEET S-2

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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-	-	-	-
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-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB..MSH..Br02374..13BOR..LOG..4.dgn

SIGNATURE/ BLOCK:

JAMES C. HALL JR. LICENSED PROFESSIONAL ENGINEER

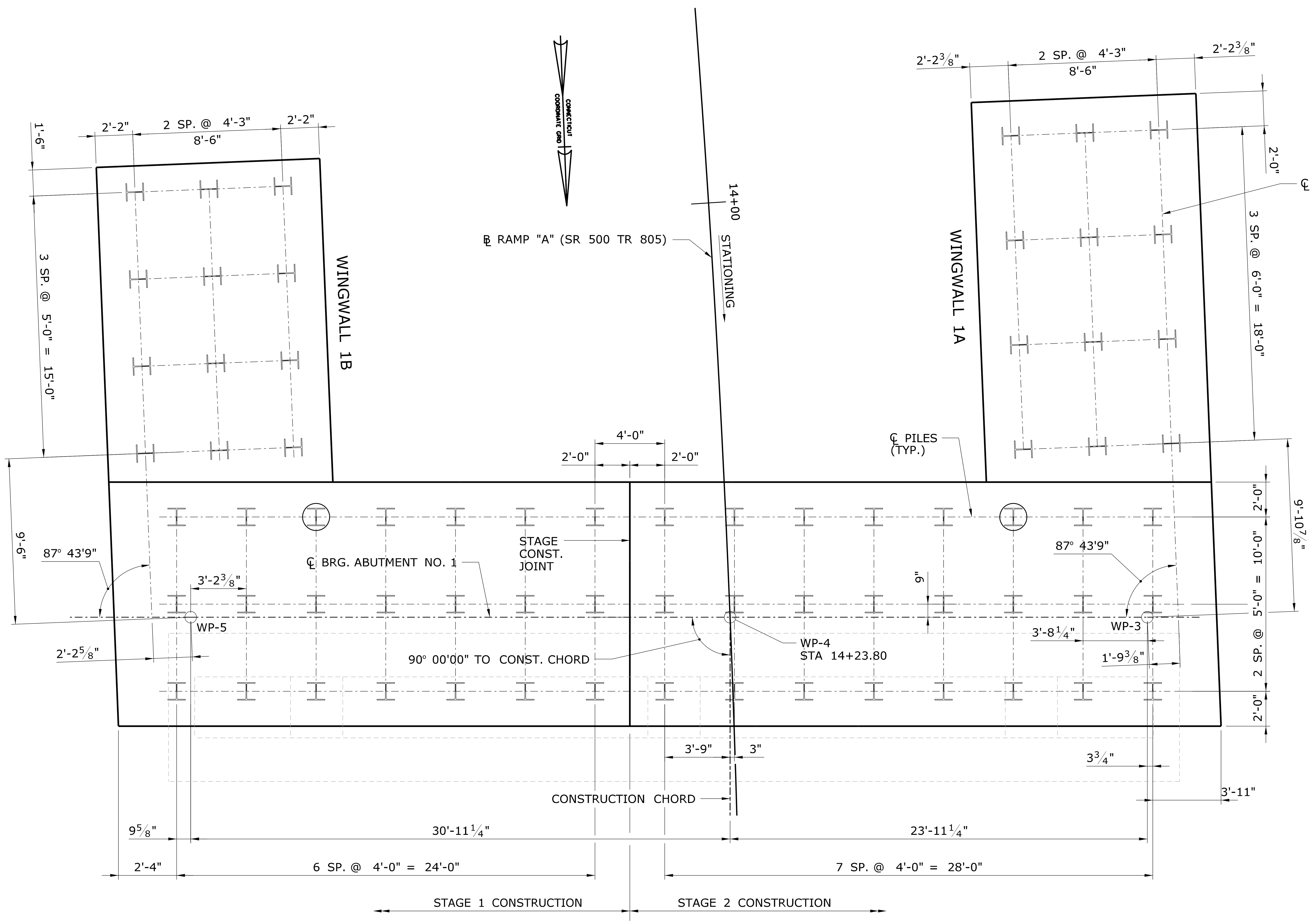
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **BORING LOGS (4 OF 4)**

PROJECT NO. **042-304**
DRAWING NO. **S-13**
SHEET NO. **01.04.13**



ABUTMENT NO. 1 PILE LAYOUT

SCALE: ¼" = 1'-0"

ABUTMENT NO. 1 PILE SCHEDULE

LOCATION	BOTTOM OF FTG. ELEV. (BFE) (FT)	EST. PILE TIP ELEV. (FT)	UNFACTORED DOWNDRAG (KIPS)	ULTIMATE PILE CAPACITY (KIPS)	MAX. FACTORED AXIAL LOAD (KIPS)		NO. OF PILES PER FOOTING	PILE CUT-OFF ELEVATION (FT)	EST. FURNISHED LENGTH (FT) (SEE NOTE 9)
					AASHTO STRENGTH I LIMIT STATE	AASHTO SERVICE I LIMIT STATE			
ABUTMENT NO. 1	10.00	-73.00	43	256	125	88	45	11.00	84.00
WINGWALL NO. A	17.50	-73.00	50	262	98	68	12	18.50	91.50
WINGWALL NO. B	17.75	-73.00	50	262	98	68	12	18.75	91.75

PILE NOTES:

1. PILE SPACING IS MEASURED ALONG CENTERLINE OF PILES.
2. PRIOR TO DRIVING THE PILES, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL HIS METHOD AND SEQUENCE OF PILE DRIVING.
3. PAY ITEM "DRIVING STEEL PILES" IS MEASURED FROM ACTUAL PILE TIP ELEVATION TO BOTTOM OF FOOTING.
4. ESTIMATED FURNISHED LENGTH IS FROM ESTIMATED PILE TIP ELEVATION TO BOTTOM OF FOOTING PLUS 1 FT.
5. CONTRACTOR SHALL SIZE HAMMER BASED ON ULTIMATE LOADS.
6. ALL PILES SHALL BE DRIVEN TO REFUSAL IN BEDROCK.
7. TEST PILES INDICATED ON THE PLANS SHALL BE USED TO VERIFY DRIVEN LENGTHS AND DRIVING CRITERIA. DYNAMIC PILE DRIVING ANALYSIS (PDA) TEST SHALL BE PERFORMED ON EACH TEST PILE. THE COST OF THE PILE LOADING TEST SHALL BE INCLUDED IN THE COST OF THE ITEMS "TEST PILE (STEEL HP 12 x 84 - 90' LONG)" AND "TEST PILE (STEEL HP 12 x 84 - 85' LONG)". THE COST OF THE (PDA) TEST SHALL BE INCLUDED IN THE COST OF THE ITEM "DYNAMIC PILE DRIVING ANALYSIS (PDA) TEST".
8. PILES SHALL BE PRE-AUGERED TO ELEVATION -20.00.
9. ALL BUT THE BOTTOM 20 FEET OF STEEL H-PILE SHALL BE COATED WITH BITUMINOUS COATING FOR STEEL PILES.
10. PILE ORDER LENGTHS WILL BE ESTABLISHED UPON COMPLETION OF THE TEST PILES. ESTIMATED FURNISHED LENGTHS SHOULD NOT BE USED AS ORDER LENGTHS.

LEGEND

DENOTES VERTICAL STEEL PILE

DENOTES TEST PILE (HP 12 x 84, 90' LONG)

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_14ABUT1_FPN.dgn

SIGNATURE/BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

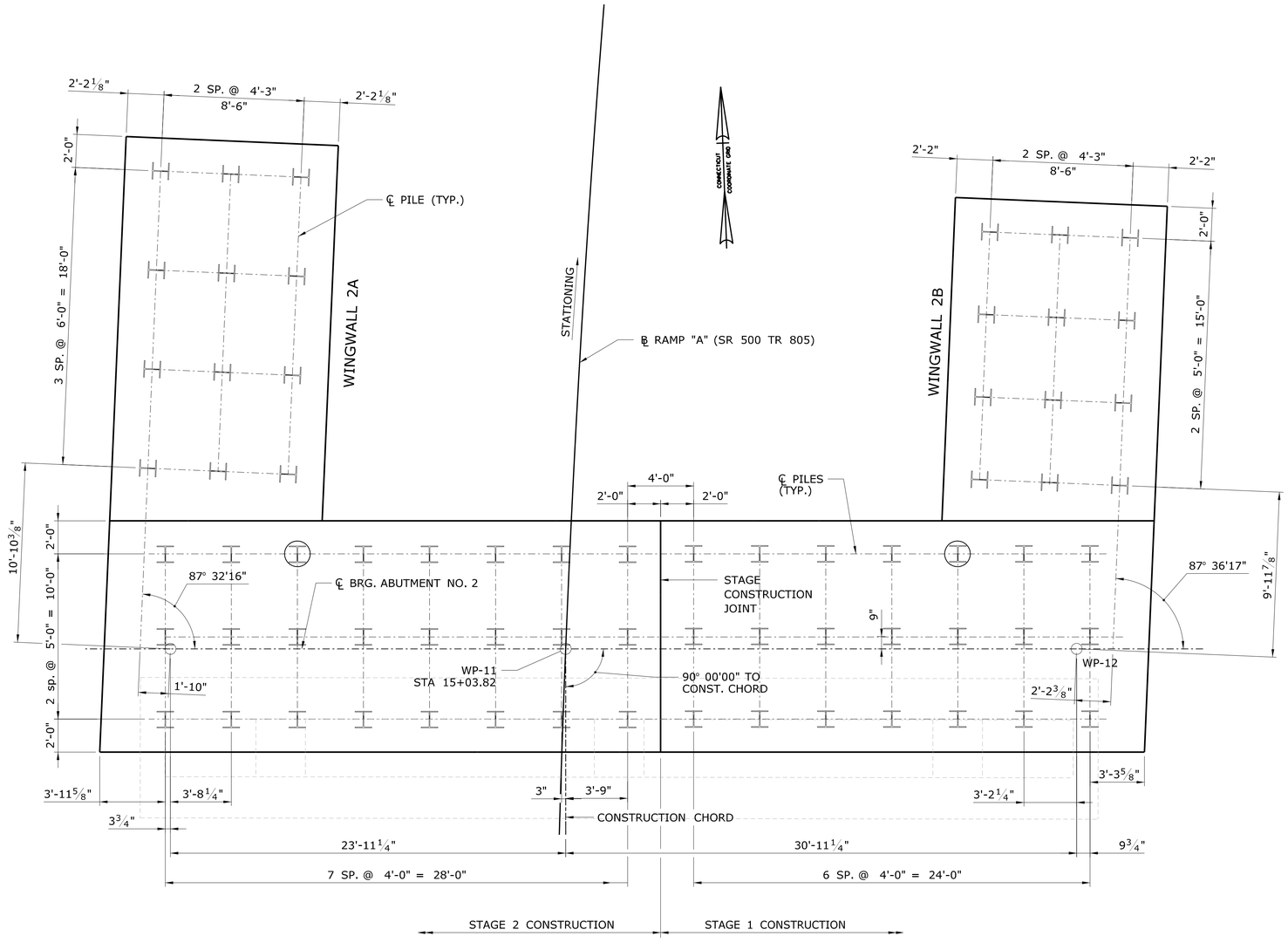
TOWN: **EAST HARTFORD**

DRAWING TITLE: **ABUTMENT NO. 1 FOUNDATION LAYOUT**

PROJECT NO. **042-304**

DRAWING NO. **S-14**

SHEET NO. **01.04.14**



ABUTMENT NO. 2 PILE LAYOUT PLAN

SCALE: 1/4" = 1'-0"

ABUTMENT NO. 2 PILE SCHEDULE

LOCATION	BOTTOM OF FTG. ELEV. (BFE) (FT)	EST. PILE TIP ELEV. (FT)	UNFACTORED DOWNDRAG (KIPS)	ULTIMATE PILE CAPACITY (KIPS)	MAX. FACTORED AXIAL LOAD (KIPS)		NO. OF PILES PER FOOTING	PILE CUT-OFF ELEVATION (FT)	EST. FURNISHED LENGTH (FT)
					AASHTO STRENGTH I LIMIT STATE	AASHTO SERVICE I LIMIT STATE			
ABUTMENT NO. 2	8.00	-68.00	43	256	125	88	45	9.00	77.00
WINGWALL NO. 2A	16.00	-68.00	50	262	98	68	12	17.00	85.00
WINGWALL NO. 2B	16.25	-68.00	50	262	98	68	12	17.00	85.25

NOTES:

1. FOR PILE NOTES, SEE DWG. NO. S-14.

LEGEND

I DENOTES VERTICAL STEEL PILE

(I) DENOTES TEST PILE (HP 12 x 84, 85' LONG)

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_15ABUT2_FPN.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALLER LICENSED PROFESSIONAL ENGINEER

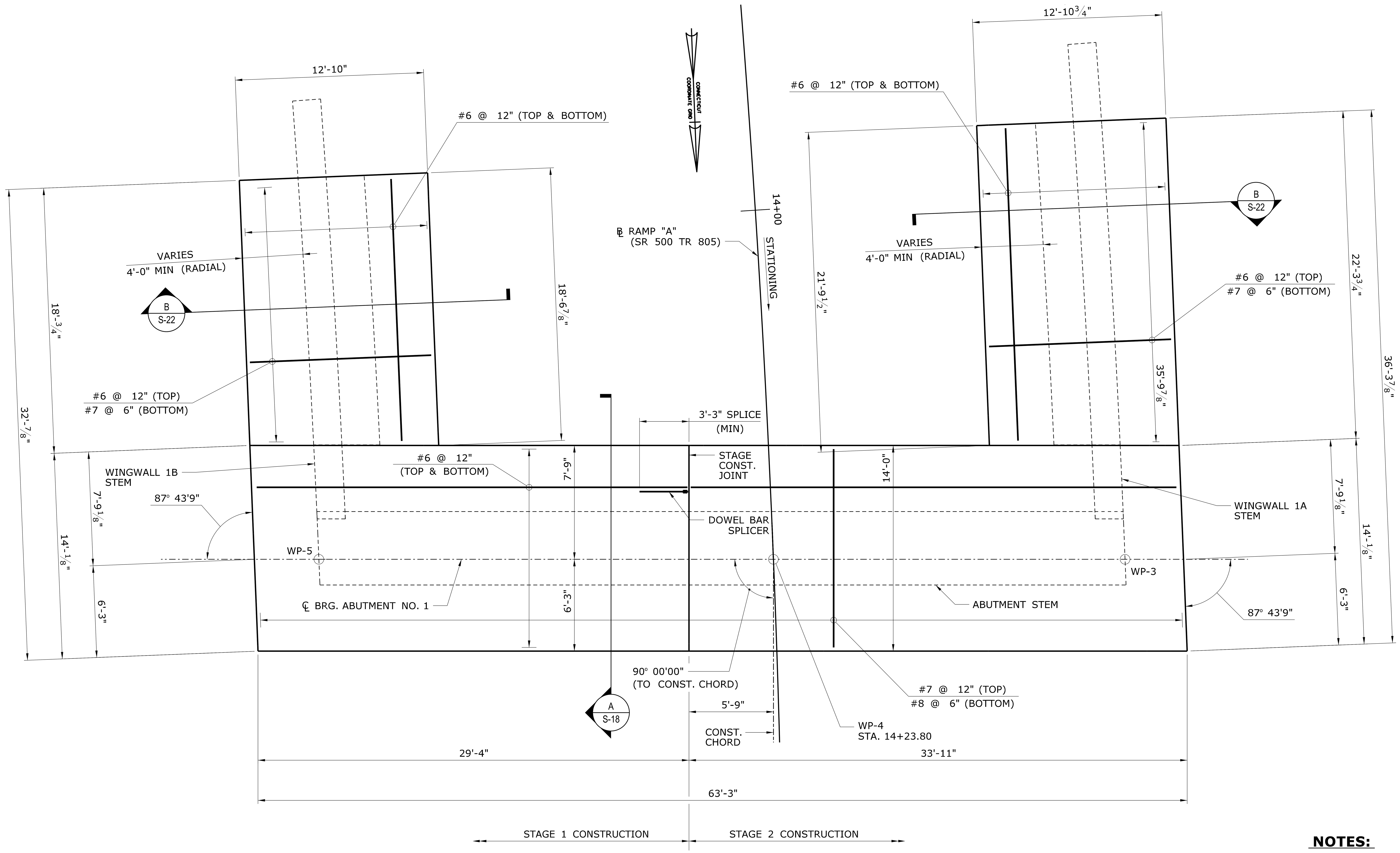
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **ABUTMENT NO. 2 FOUNDATION LAYOUT**

PROJECT NO. **042-304**
DRAWING NO. **S-15**
SHEET NO. **01.04.15**



ABUTMENT NO. 1 FOOTING PLAN

SCALE: $\frac{1}{4}$" = 1'-0"

NOTES:

1. FOR FOOTING CONCRETE AND REINFORCEMENT NOTES, SEE DWG. "GENERAL PLAN AND ELEVATION".

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_16ABUT1_FTG.dgn

SIGNATURE/BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

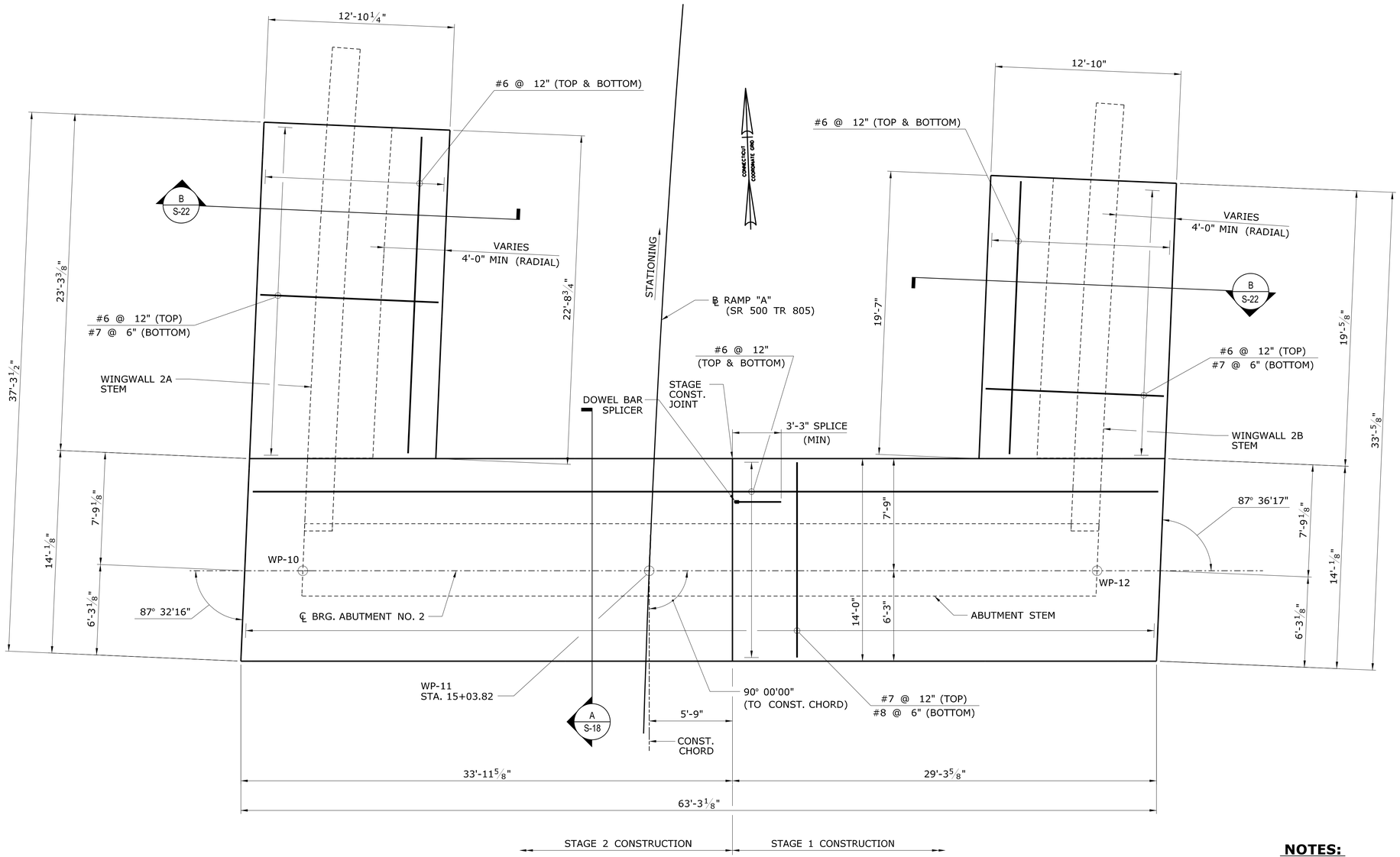
TOWN: **EAST HARTFORD**

DRAWING TITLE: **ABUTMENT NO. 1 FOOTING PLAN**

PROJECT NO. **042-304**

DRAWING NO. **S-16**

SHEET NO. **01.04.16**



ABUTMENT NO. 2 FOOTING PLAN

SCALE: 1/4" = 1'-0"

NOTES:

1. FOR FOOTING CONCRETE AND REINFORCEMENT NOTES, SEE DWG. "GENERAL PLAN AND ELEVATION".

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_17ABUT2_FTG.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT · JAMES C. HALLER · 30547 · LICENSED PROFESSIONAL ENGINEER

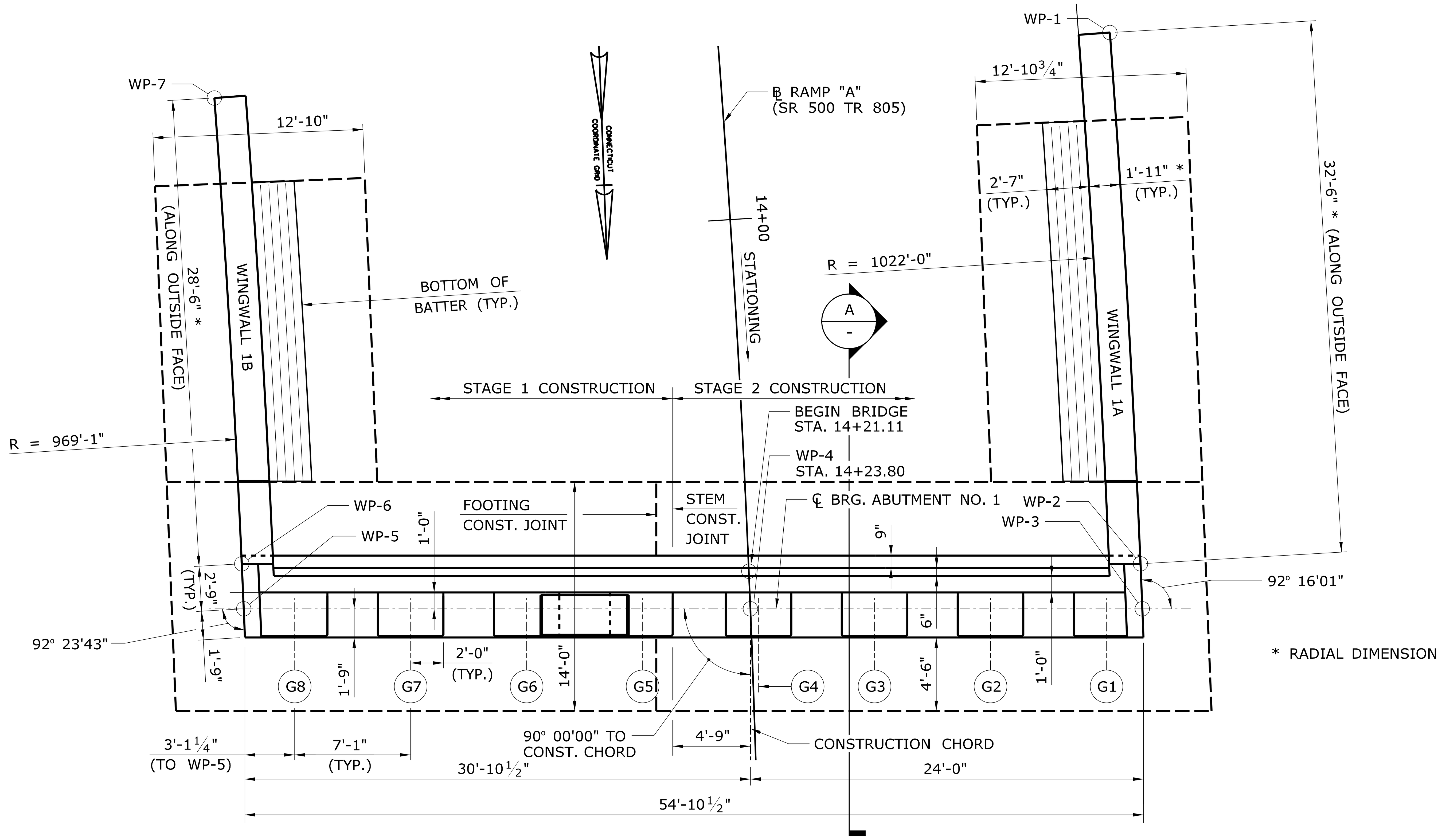
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

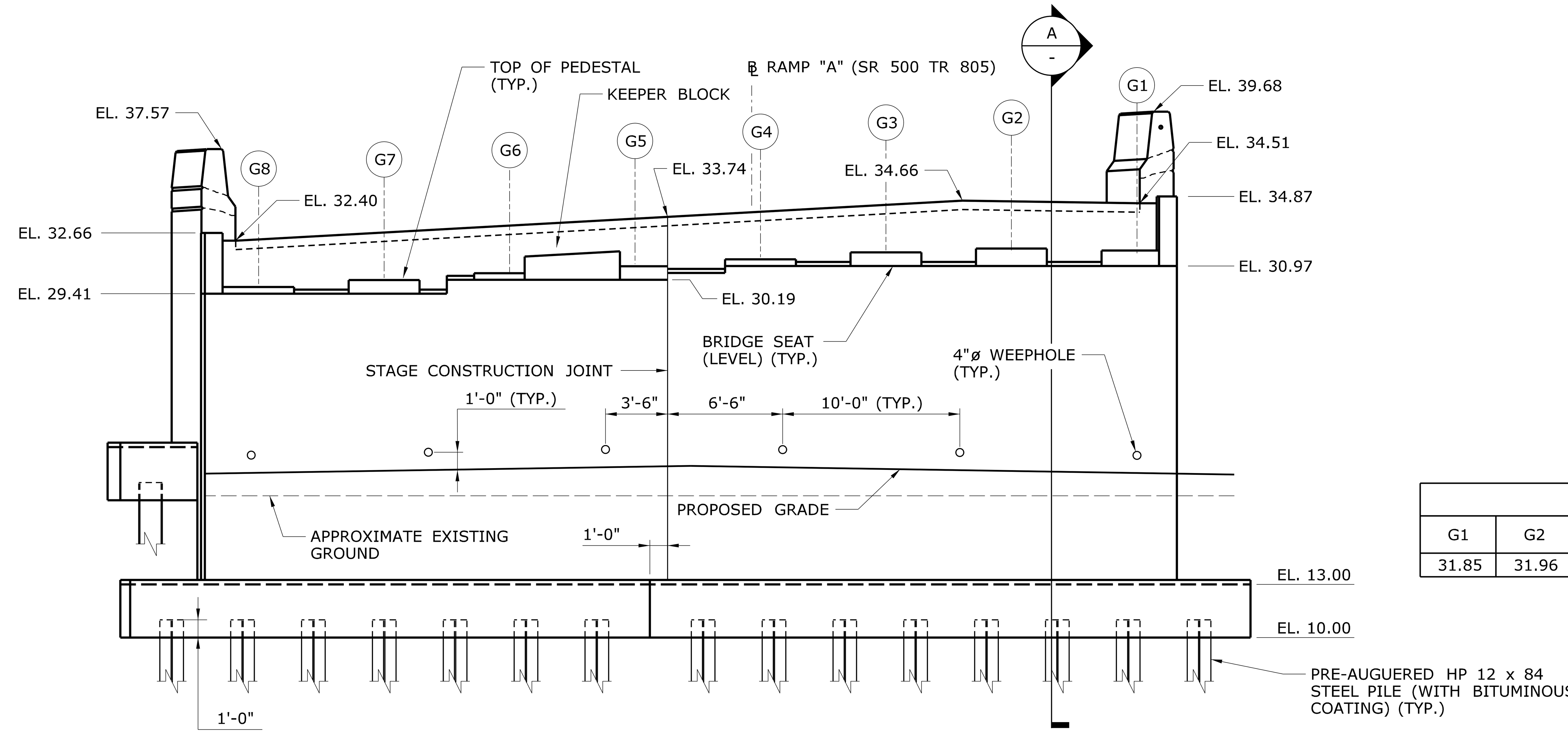
DRAWING TITLE: **ABUTMENT NO. 2 FOOTING PLAN**

PROJECT NO. **042-304**
DRAWING NO. **S-17**
SHEET NO. **01.04.17**



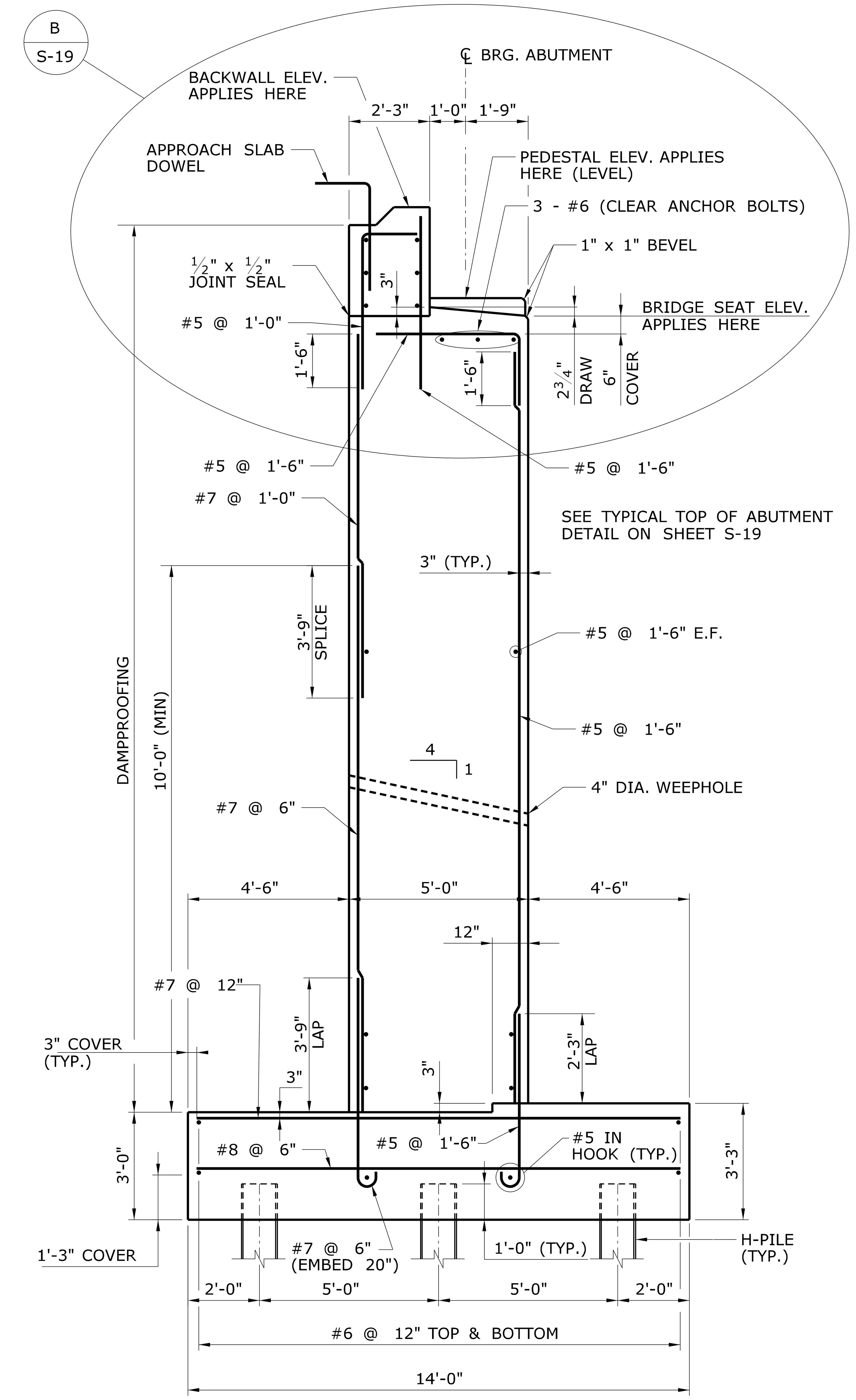
ABUTMENT NO. 1 PLAN

SCALE: 3/16" = 1'-0"



ABUTMENT NO. 1 ELEVATION

SCALE: 3/16" = 1'-0"



TYPICAL ABUTMENT SECTION

SCALE: 3/8" = 1'-0"

A / - A / S-16 A / S-17 A / S-19

PEDESTAL ELEVATIONS

G1	G2	G3	G4	G5	G6	G7	G8
31.85	31.96	31.73	31.34	30.95	30.56	30.17	29.78

NOTE:

FOR SUBSTRUCTURE NOTES, SEE DWG. NO. S-19.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_18ABUT1_MAS.dgn

SIGNATURE/BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

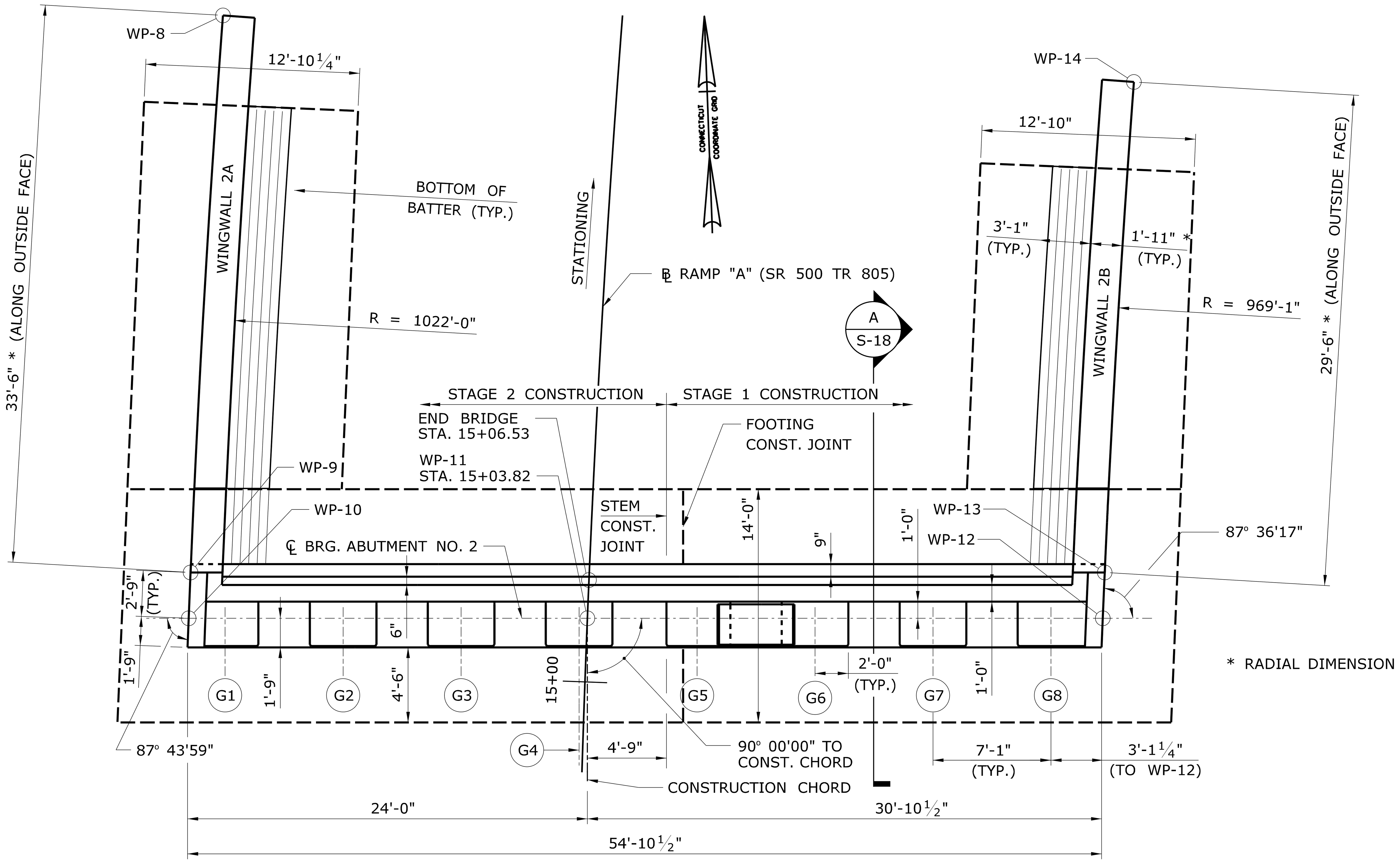
TOWN: **EAST HARTFORD**

DRAWING TITLE: **ABUTMENT NO. 1 PLAN AND ELEVATION**

PROJECT NO. **042-304**

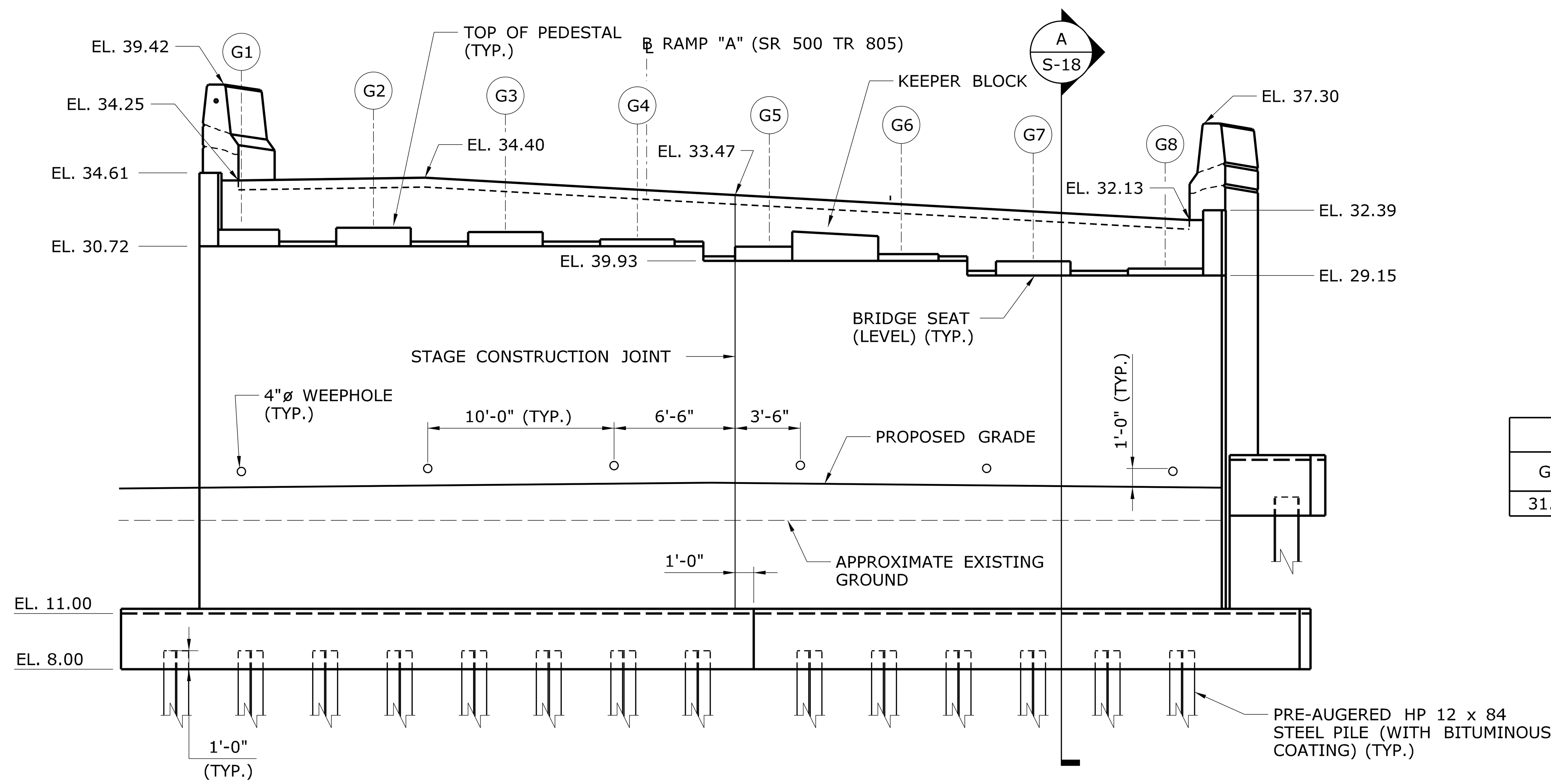
DRAWING NO. **S-18**

SHEET NO. **01.04.18**



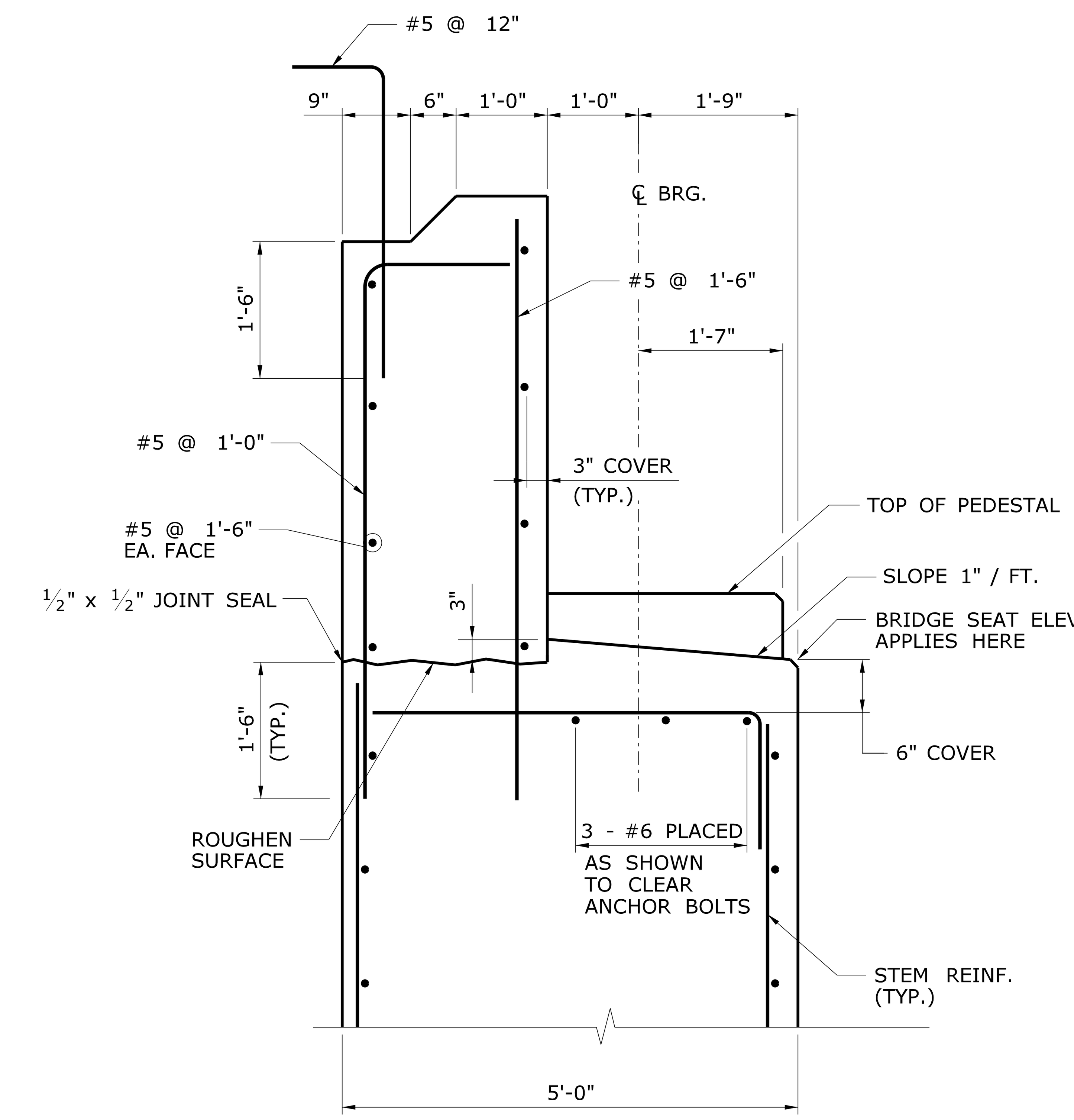
ABUTMENT NO. 2 PLAN

SCALE: 3/16 " = 1'-0"



ABUTMENT NO. 2 ELEVATION

SCALE: 3/16 " = 1'-0"



TYPICAL TOP OF ABUTMENT B / S-18

SCALE: 3/4" = 1'-0"

PEDESTAL ELEVATIONS							
G1	G2	G3	G4	G5	G6	G7	G8
31.61	31.71	31.48	31.09	30.70	30.31	29.92	29.53

SUBSTRUCTURE NOTES:

1. THE COST OF FURNISHING AND INSTALLING WEEPHOLES SHALL BE INCLUDED IN THE COST OF THE PAY ITEM "CLASS 'A' CONCRETE".
2. FOR WORKING POINT COORDINATES, SEE DWG. NO. S-4.
3. FOR PILE PLAN AND FOOTING LAYOUT, SEE DWG. NO. S-14 AND DWG. NO. S-15.
4. FOR FOOTING REINFORCEMENT LAYOUT, SEE DWG. NO. S-16 AND DWG. NO. S-17.
5. FOR WINGWALL ELEVATIONS, SEE DWG. NO. S-21.
6. FOR VERTICAL STEM JOINT DETAIL, SEE DWG. NO. S-23.
7. FOR BEARING DETAILS, SEE DWG NO. S-30.
8. FOR APPROACH SLAB DETAILS, SEE DWG NO. S-29.
9. FOR SUBSTRUCTURE PAY LIMITS, SEE DWG NO. S-23.
10. FOR PARAPET REINFORCEMENT DETAILS, SEE DWG NO. S-31.
11. CONTRACTOR SHALL VERIFY WEEPHOLE INVERT ELEVATIONS IN THE FIELD.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD

CHECKED BY: JCH

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_19ABUT2_MAS.dgn

SIGNATURE/BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

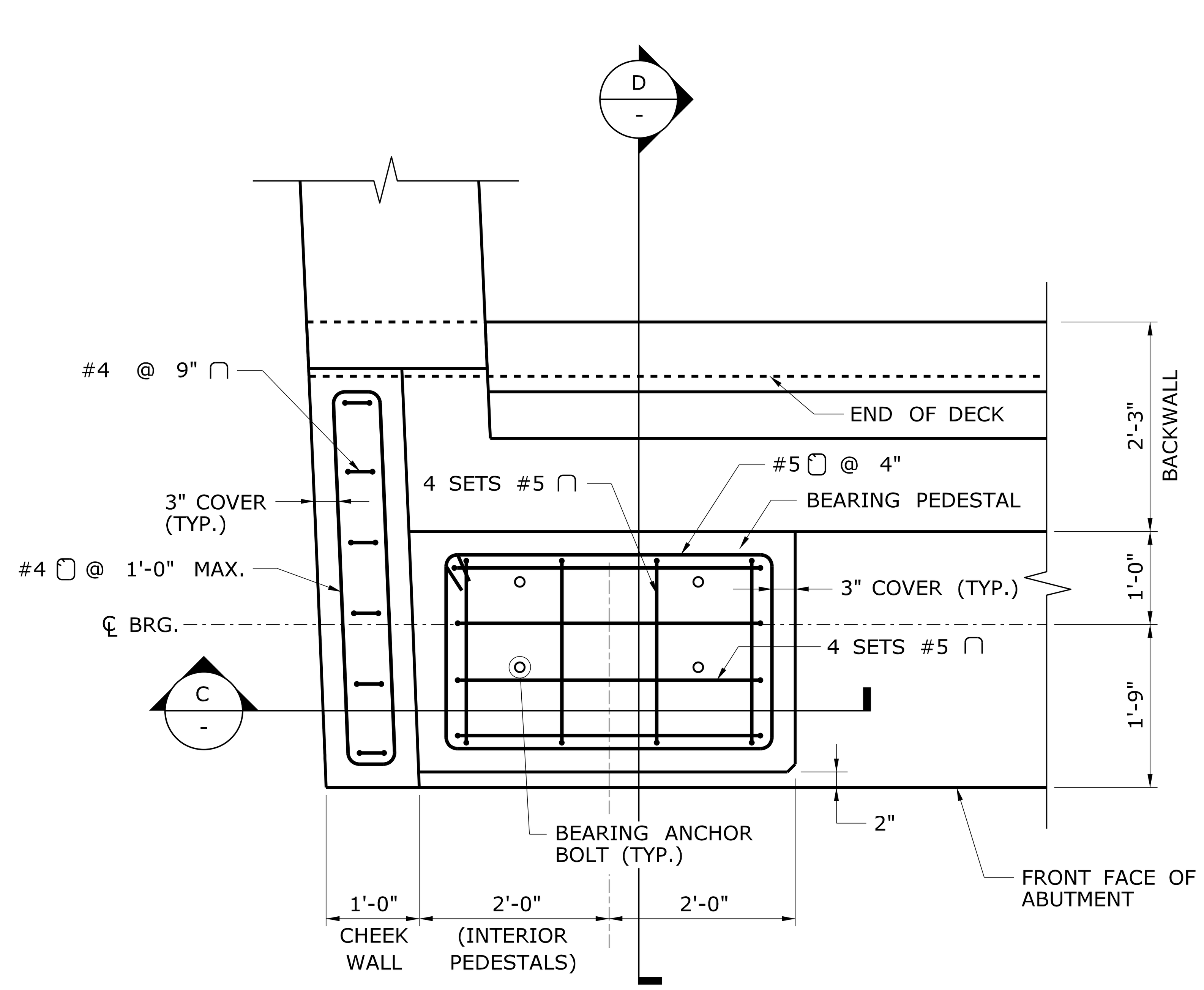
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:

REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

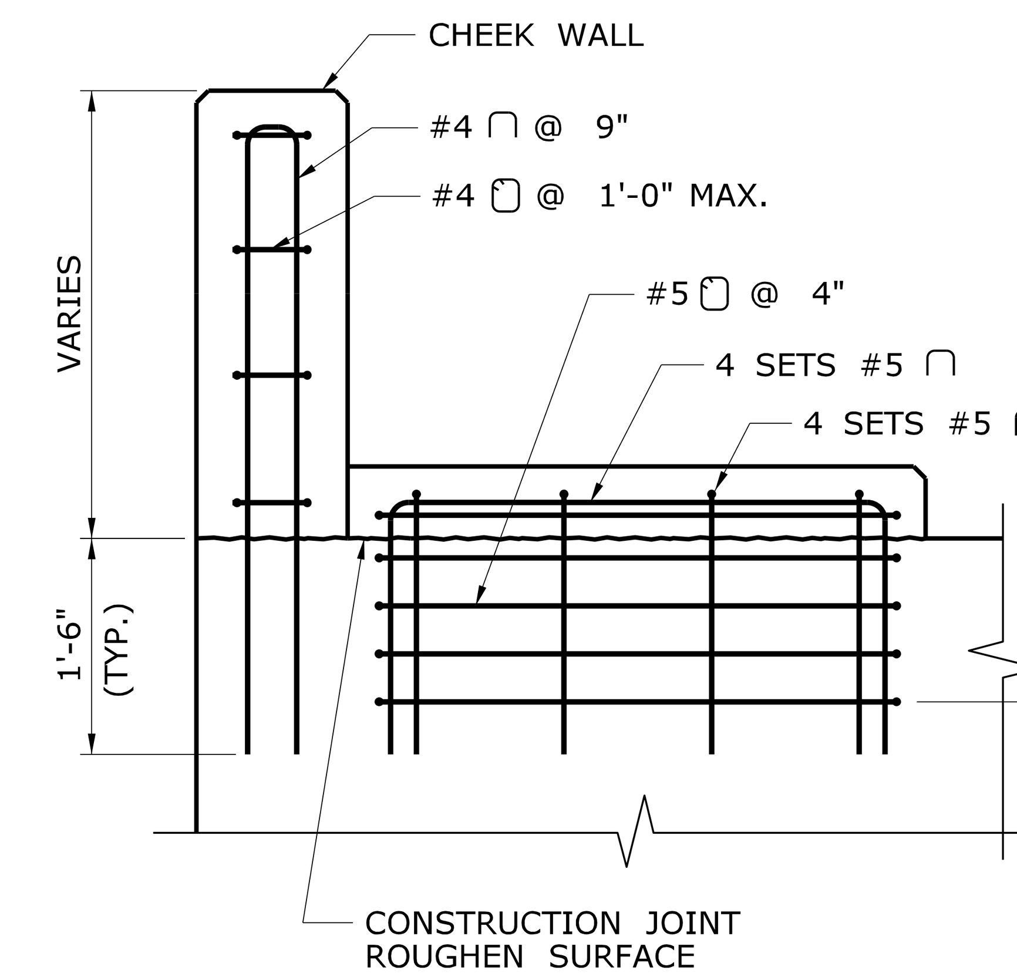
DRAWING TITLE: **ABUTMENT NO. 2 PLAN AND ELEVATION**



NOTE: EXTERIOR GIRDER BEARING PEDESTAL SHOWN, INTERIOR GIRDER BEARING PEDESTAL TYPICAL

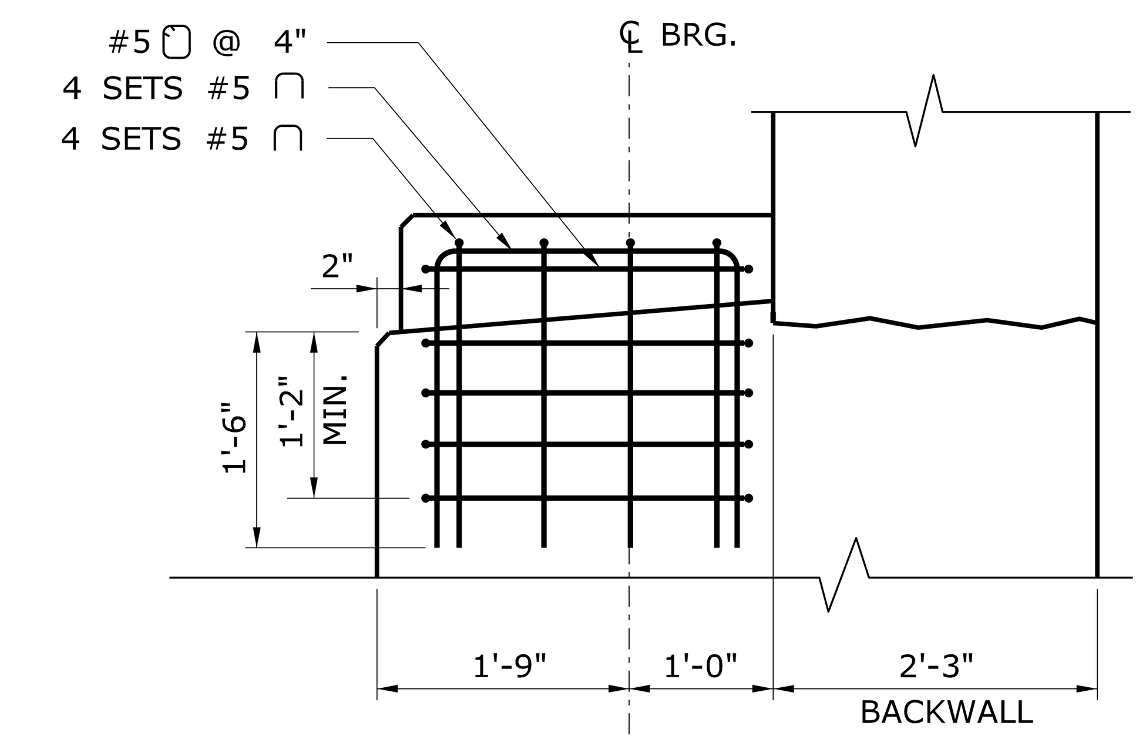
ABUTMENT CHEEKWALL AND BEARING PEDESTAL PLAN

SCALE: 3/4" = 1'-0"



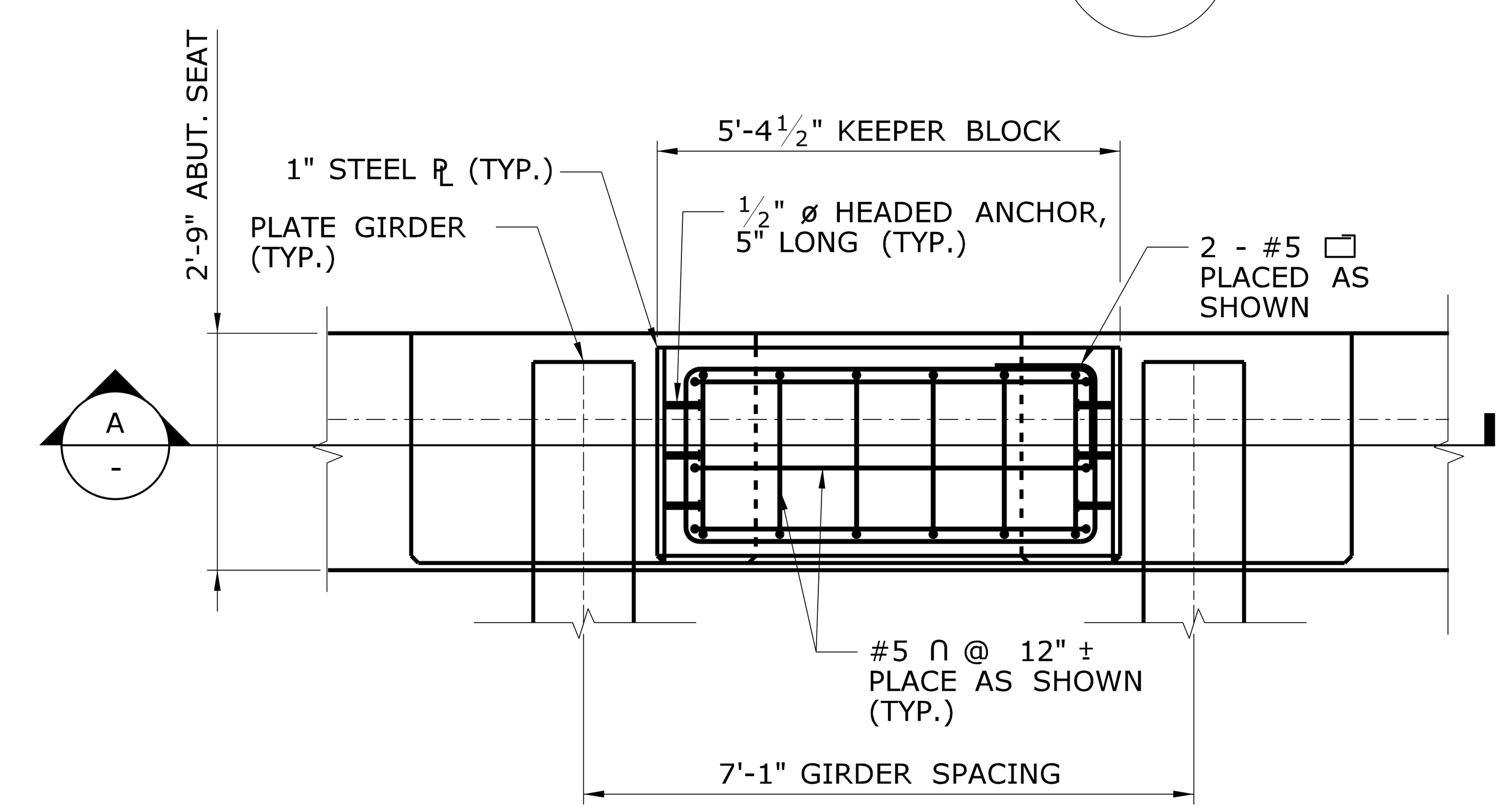
SECTION C

SCALE: 3/4" = 1'-0"



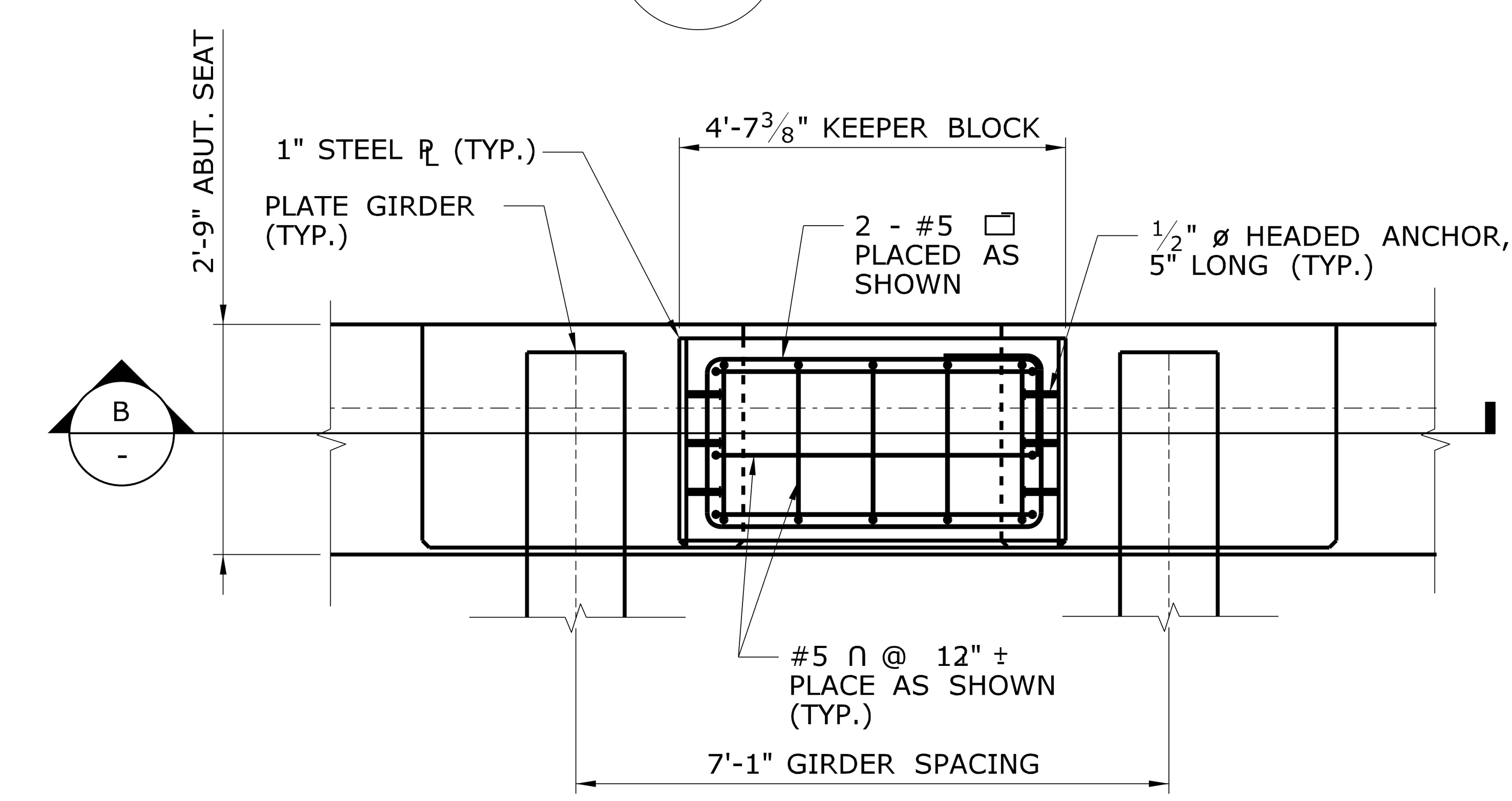
SECTION D

SCALE: 3/4" = 1'-0"



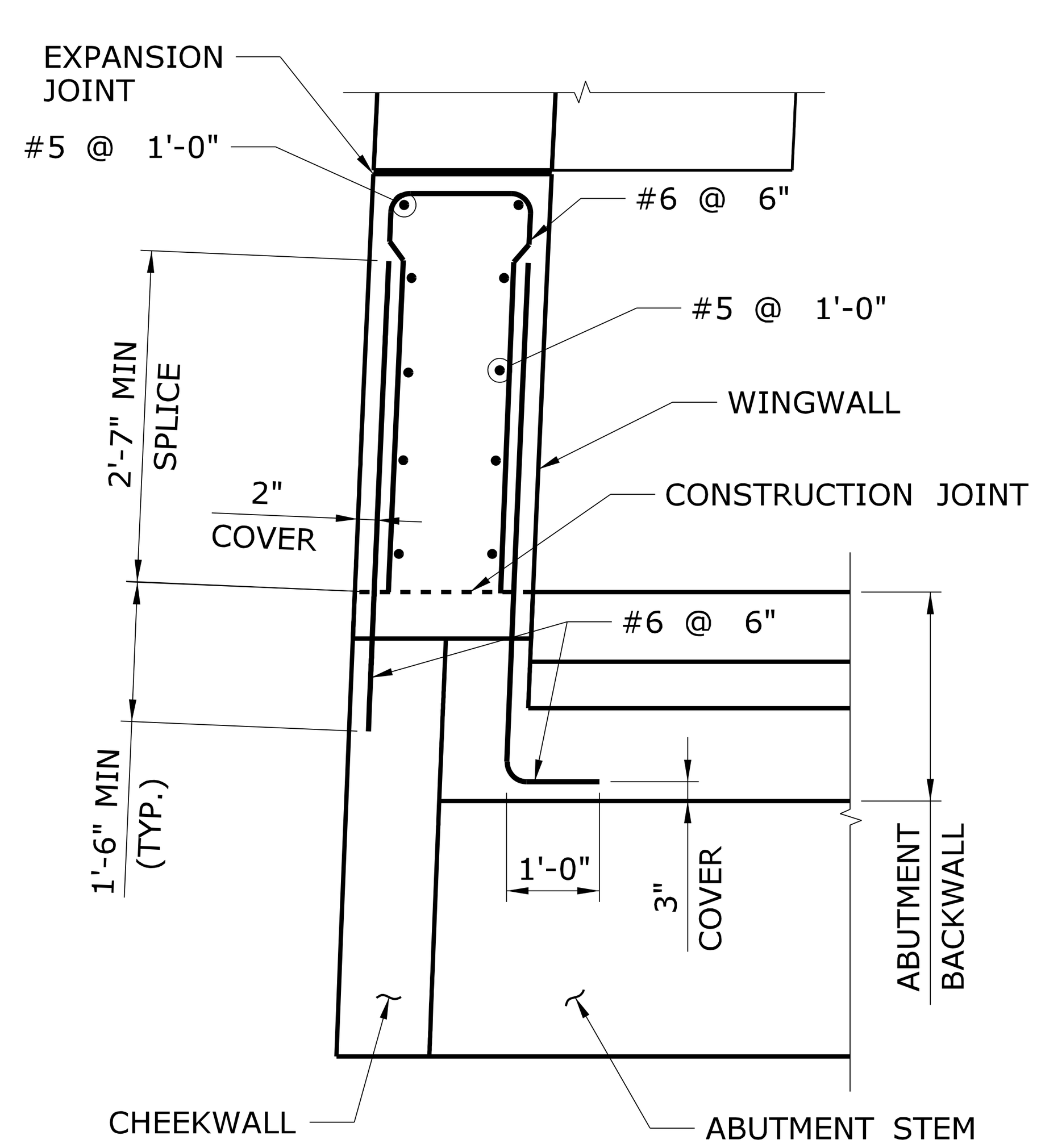
KEEPER BLOCK AT ABUT. 1 PLAN

SCALE: 1/2" = 1'-0"



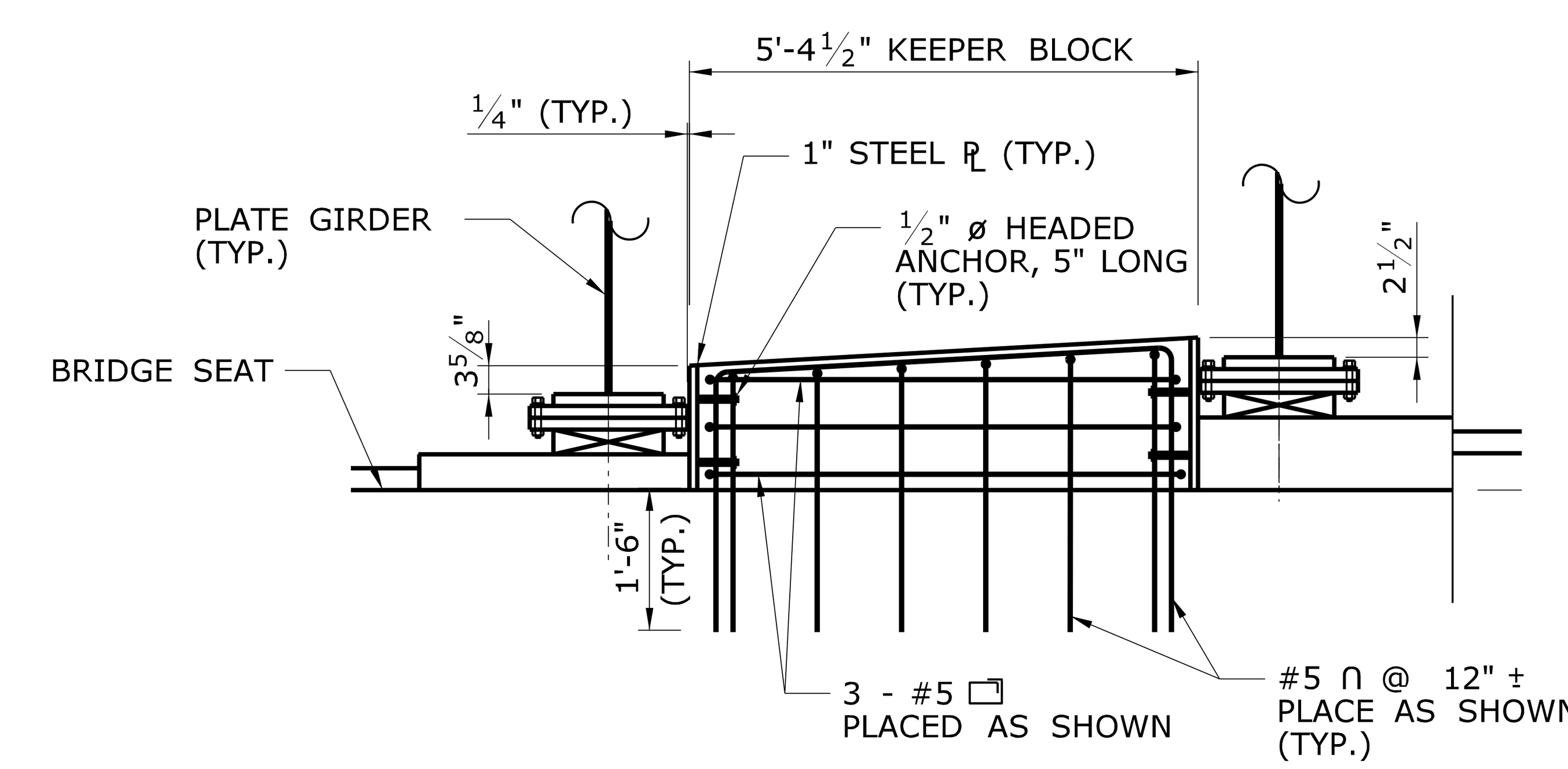
KEEPER BLOCK AT ABUT. 2 PLAN

SCALE: 1/2" = 1'-0"



ABUTMENT CORNER REINFORCING DETAIL

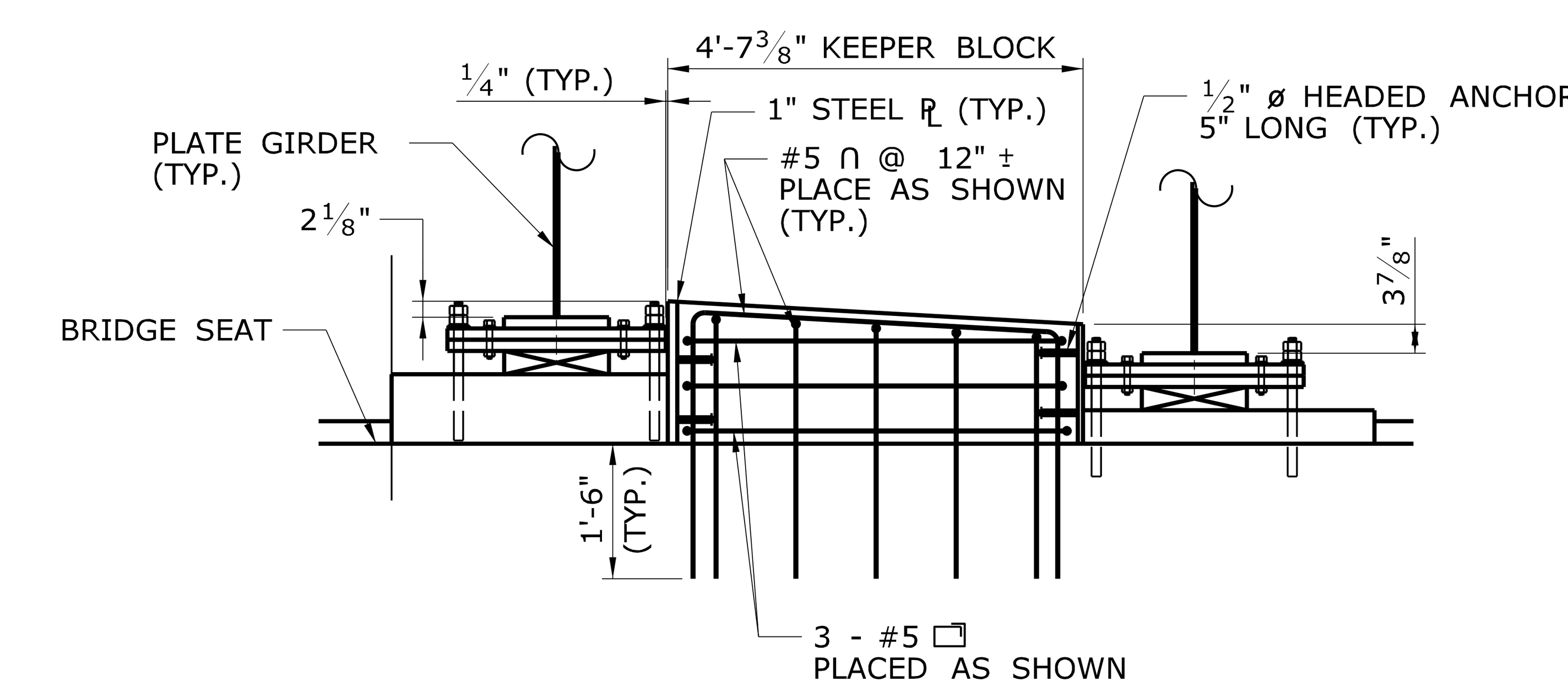
SCALE: 1/2" = 1'-0"



NOTE: SEE DWG. "BEARING DETAILS" FOR BEARING DIMENSIONS.

SECTION A

SCALE: 1/2" = 1'-0"



NOTE: SEE DWG. "BEARING DETAILS" FOR BEARING DIMENSIONS.

SECTION B

SCALE: 1/2" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD

CHECKED BY: JCH

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_20ABUT1_REBAR.dgn

SIGNATURE/BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:

REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

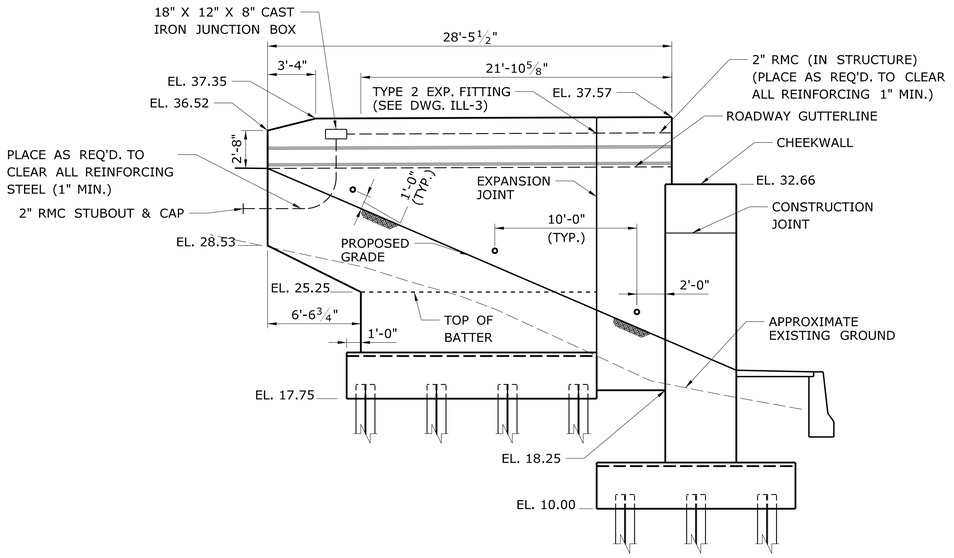
TOWN: **EAST HARTFORD**

DRAWING TITLE: **ABUTMENT REINFORCEMENT DETAILS**

PROJECT NO. **042-304**

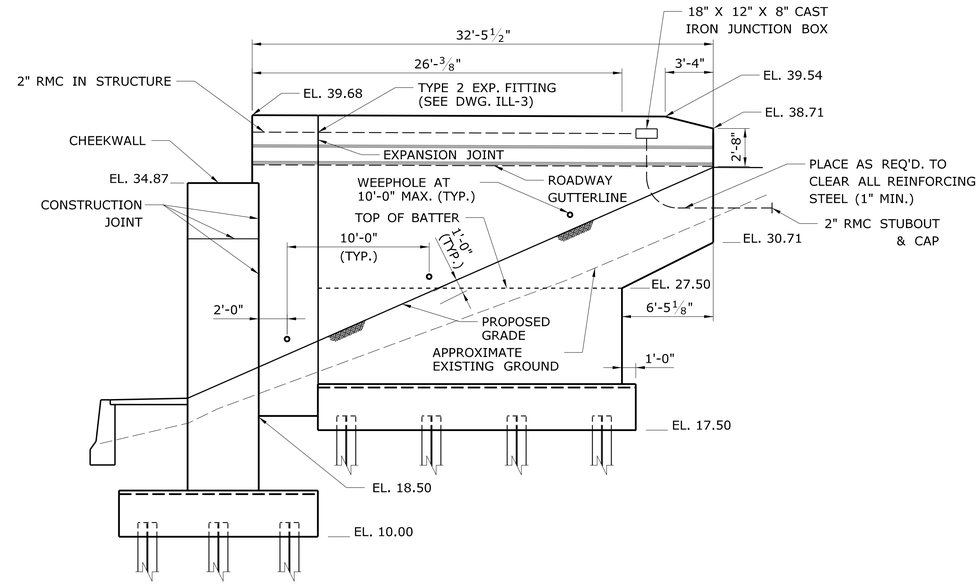
DRAWING NO. **S-20**

SHEET NO. **01.04.20**



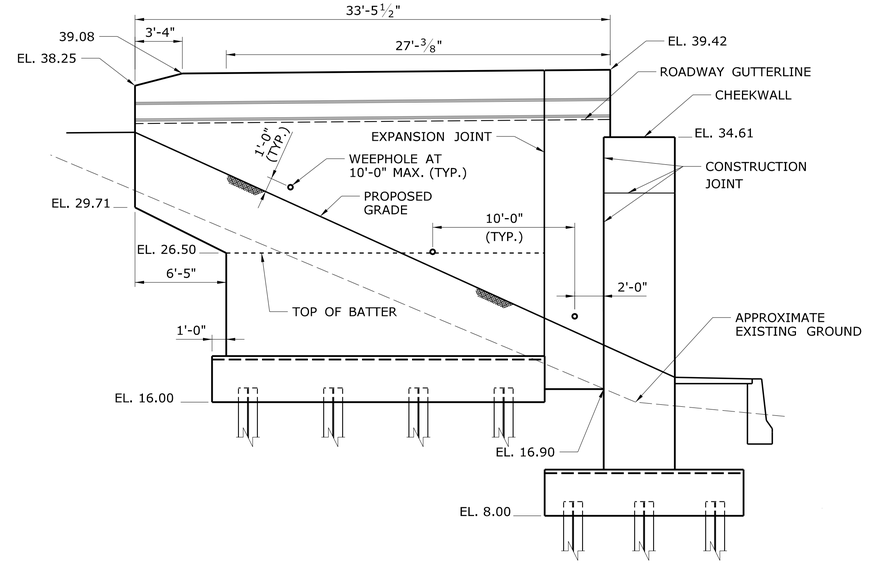
WINGWALL 1B ELEVATION

SCALE: 3/16" = 1'-0"



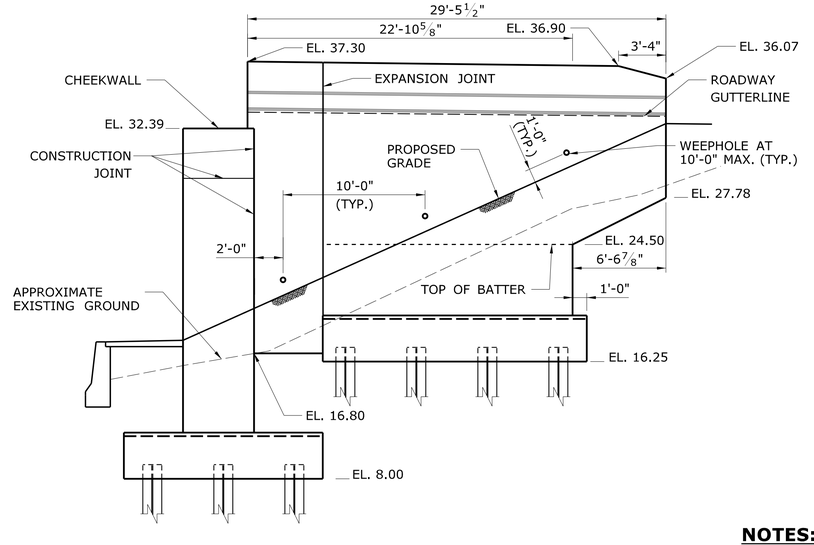
WINGWALL 1A ELEVATION

SCALE: 3/16" = 1'-0"



WINGWALL 2A ELEVATION

SCALE: 3/16" = 1'-0"



WINGWALL 2B ELEVATION

SCALE: 3/16" = 1'-0"

NOTES:

1. CONTRACTOR SHALL VERIFY WEEPHOLE INVERT ELEVATION IN THE FIELD.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD

CHECKED BY: JCH

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_21WING_ELEV.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALL 15 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

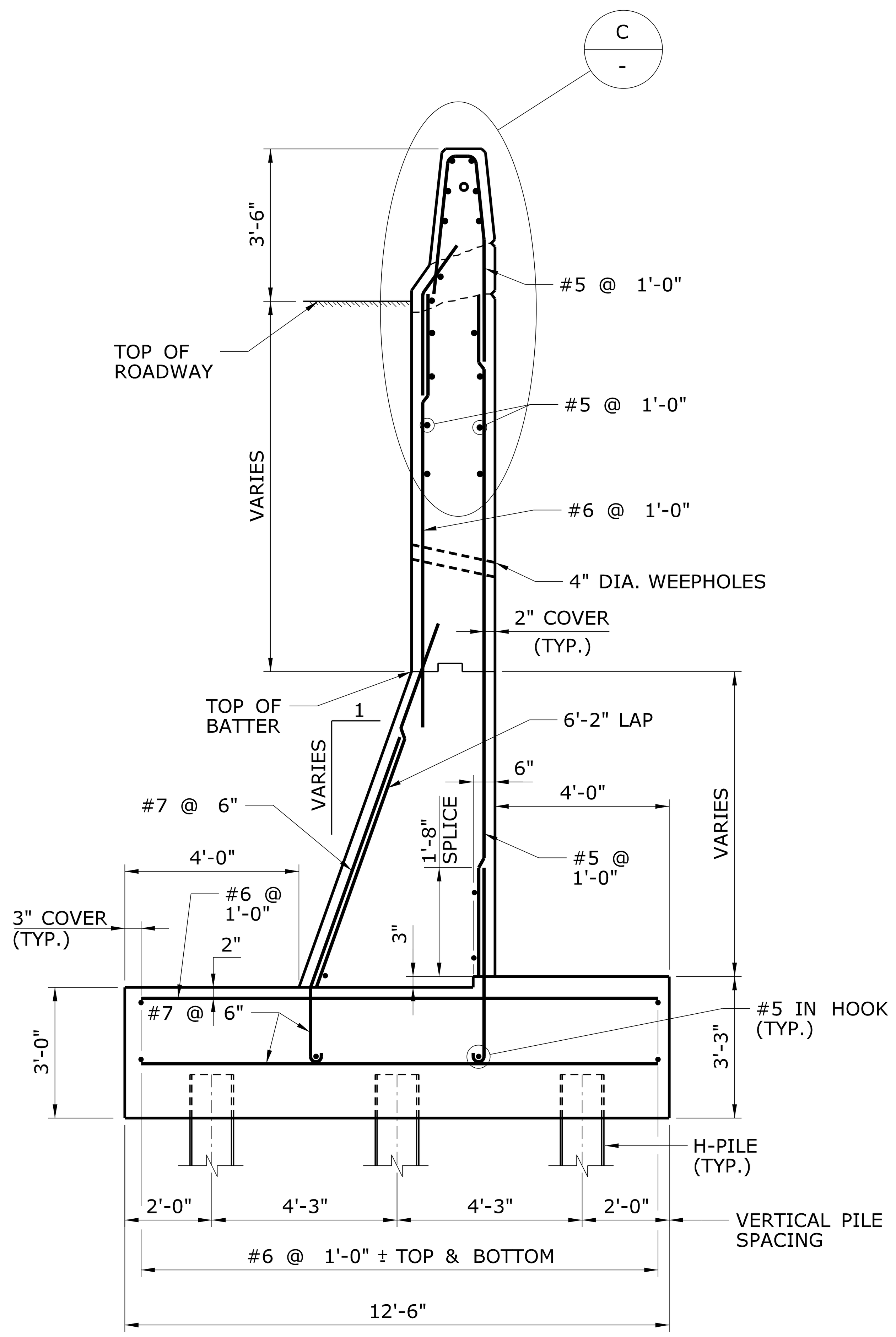
TOWN: **EAST HARTFORD**

DRAWING TITLE: **WINGWALL ELEVATIONS**

PROJECT NO. **042-304**

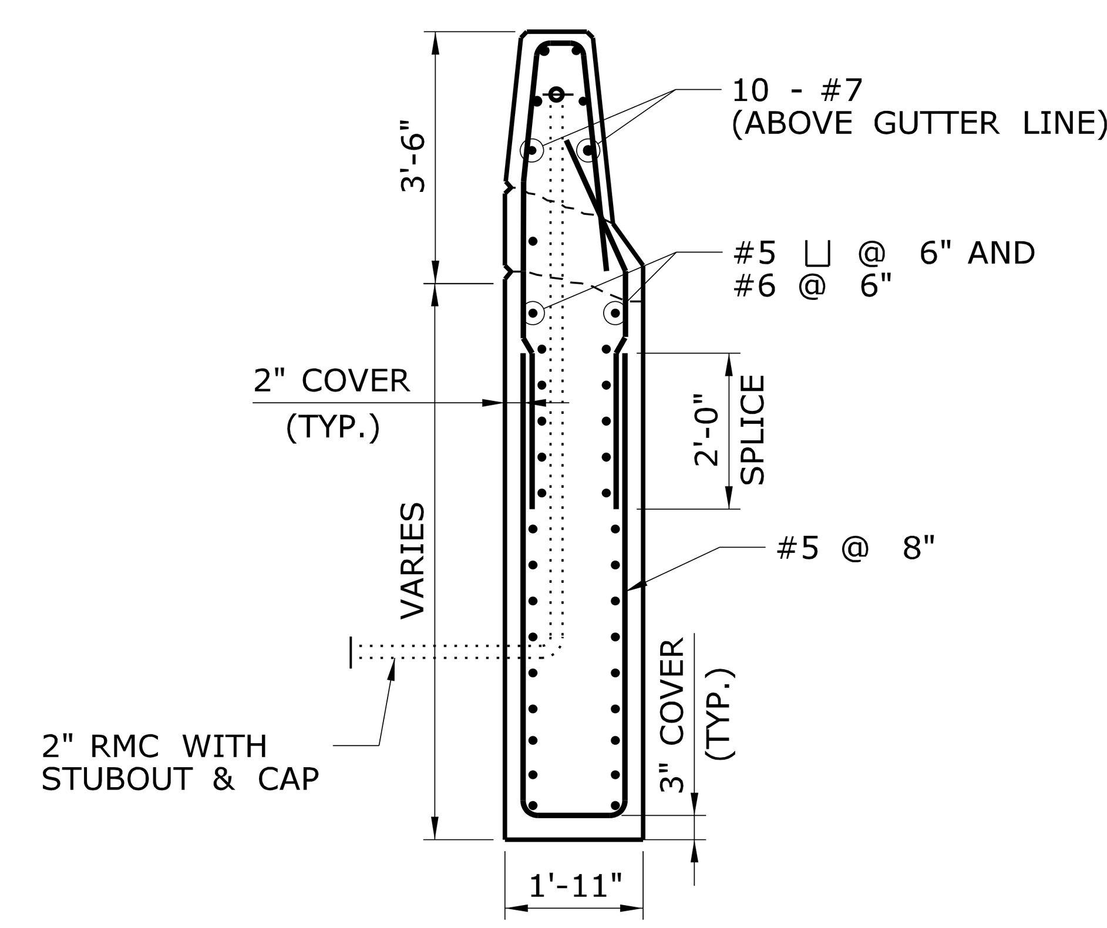
DRAWING NO. **S-21**

SHEET NO. **01.04.21**



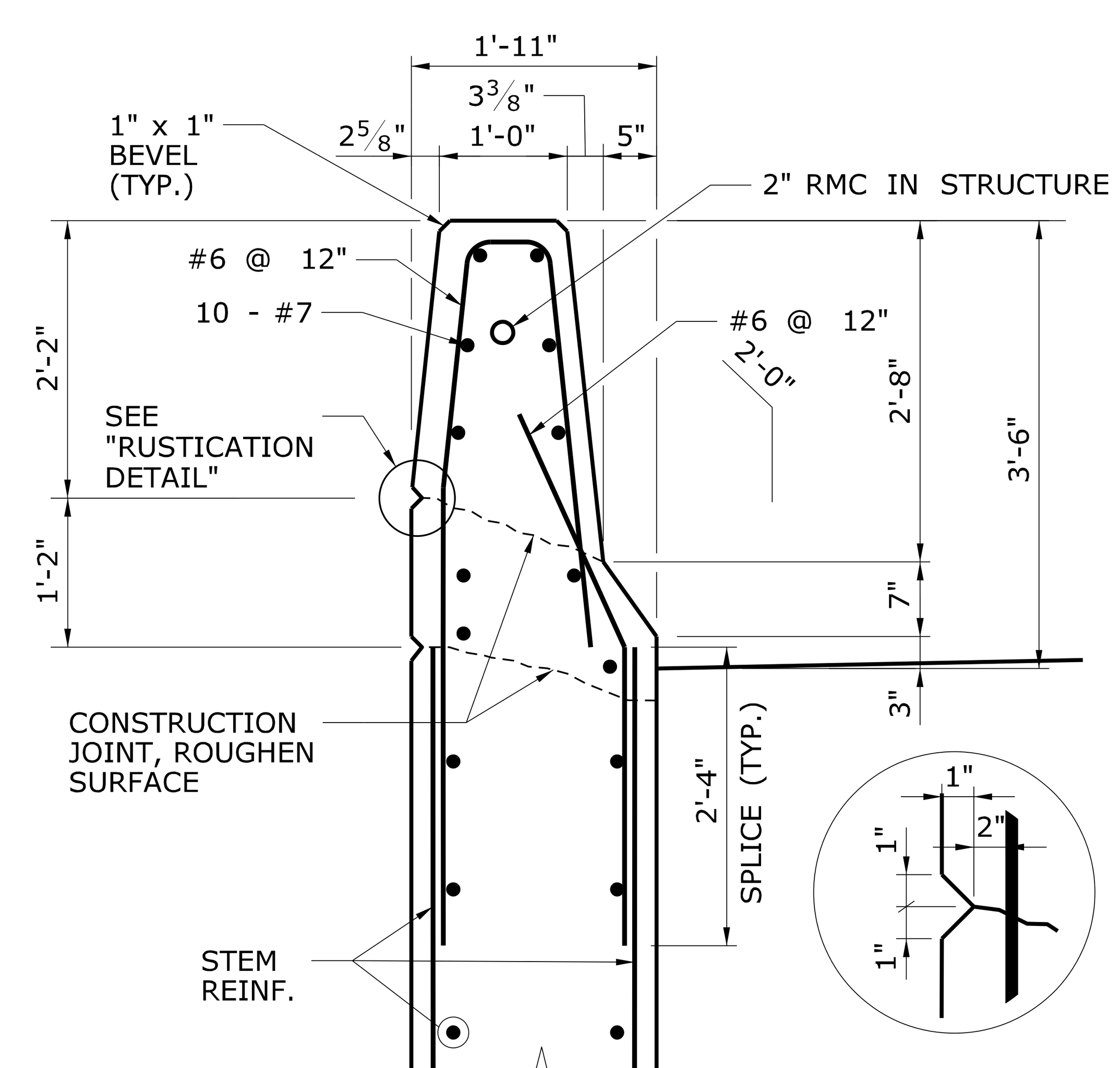
TYPICAL WINGWALL SECTION (B / S-16) (B / S-17)

SCALE: 3/8" = 1'-0"



SECTION (A / -)

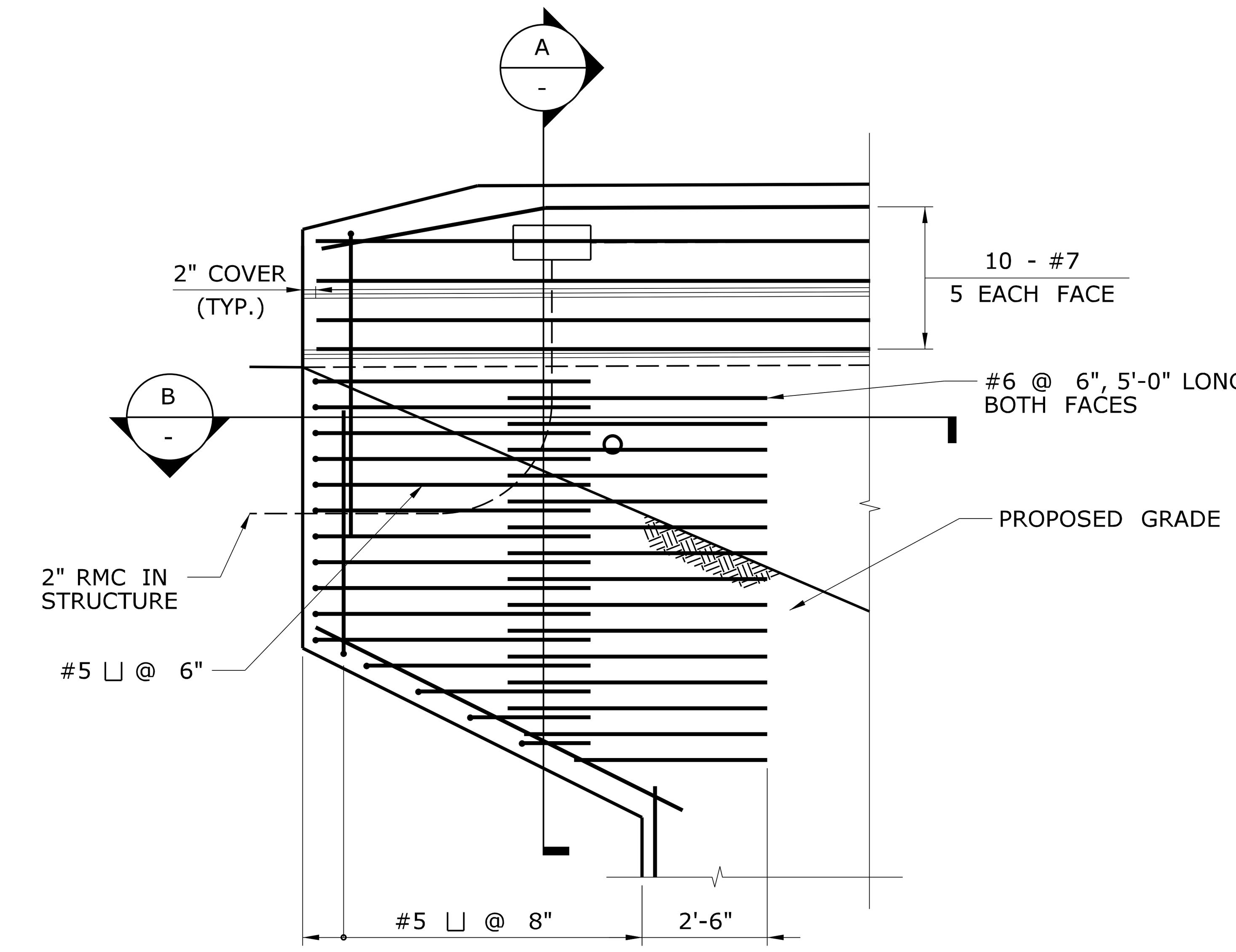
SCALE: 3/8" = 1'-0"



RUSTICATION DETAIL

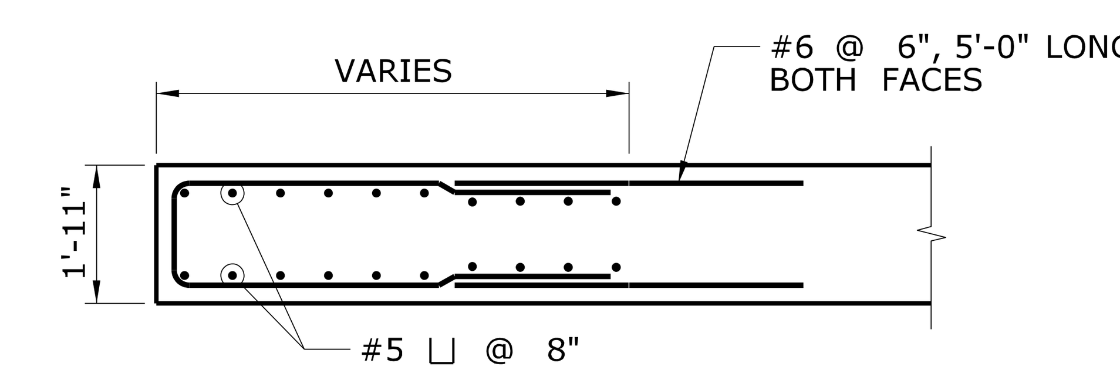
DETAIL (C / -)

SCALE: 3/4" = 1'-0"



WINGWALL REINFORCING DETAIL

SCALE: 3/8" = 1'-0"



SECTION (B / -)

SCALE: 3/8" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_22WING_DTLS.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

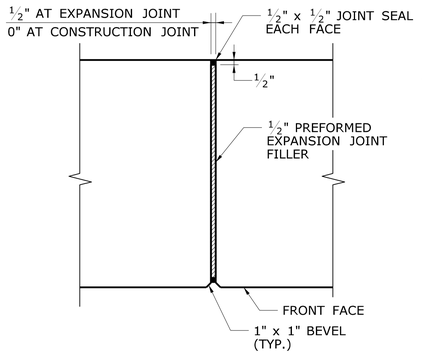
TOWN: **EAST HARTFORD**

DRAWING TITLE: **WINGWALL DETAILS**

PROJECT NO. **042-304**

DRAWING NO. **S-22**

SHEET NO. **01.04.22**

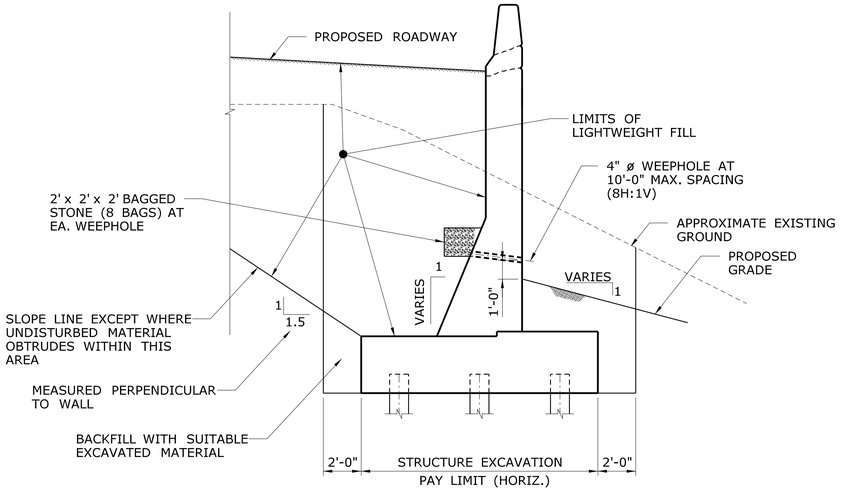


VERTICAL STEM JOINT DETAIL

NOT TO SCALE

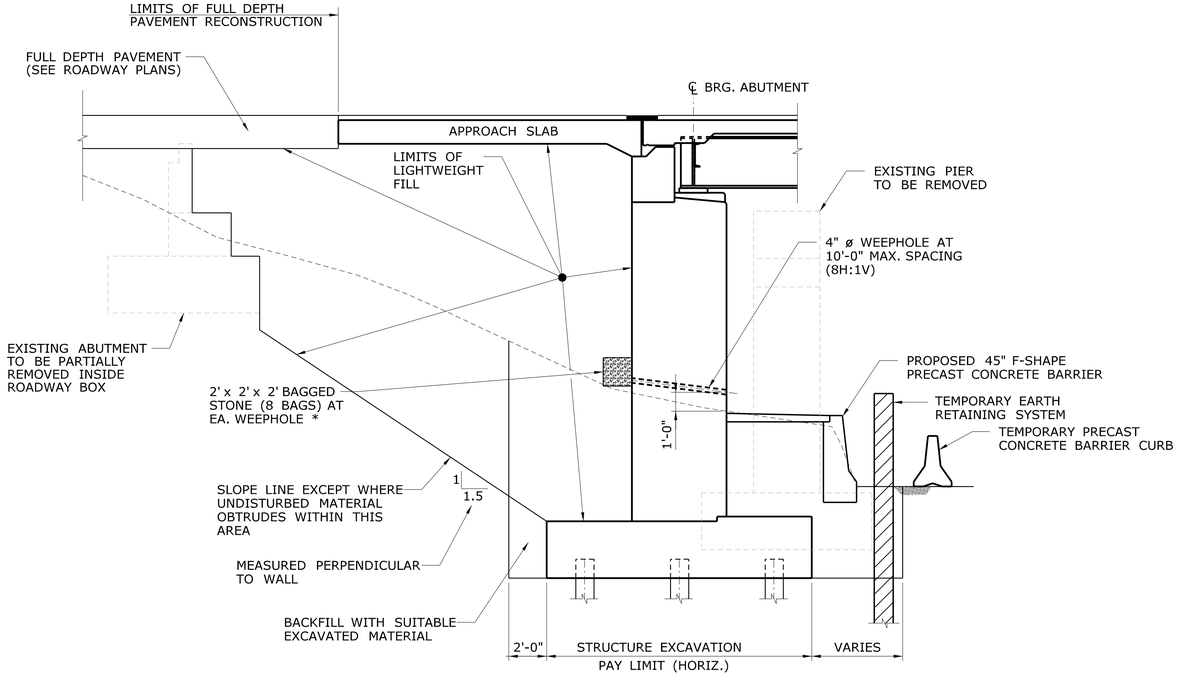
VERTICAL STEM JOINT NOTES

1. JOINT SEAL SHALL BE INCLUDED IN ITEM "CLASS "A" CONCRETE"
2. ABUTMENTS - JOINT SEAL TO EXTEND FROM TOP OF FOOTING TO TOP OF BACKWALL AND HORIZONTALLY ALONG TOP OF BACKWALL.
3. WINGWALLS - JOINT SEAL TO EXTEND FROM TOP OF FOOTING TO TOP OF BACKWALL AND HORIZONTALLY ALONG TOP OF BACKWALL.
4. REINFORCEMENT - NO REINFORCEMENT SHALL PASS THROUGH EXPANSION OR CONTRACTION JOINTS.
5. REINFORCEMENT SHALL EXTEND THROUGH CONSTRUCTION JOINTS.



TYPICAL WINGWALL EARTHWORK SECTION

SCALE: ¼" = 1'-0"



*SUBSIDIARY TO ITEM "LIGHTWEIGHT FILL"

TYPICAL ABUTMENT EARTHWORK SECTION

SCALE: ¼" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_23SUB_DTLS1.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT · JAMES C. HALLER · 25547 · LICENSED PROFESSIONAL ENGINEER

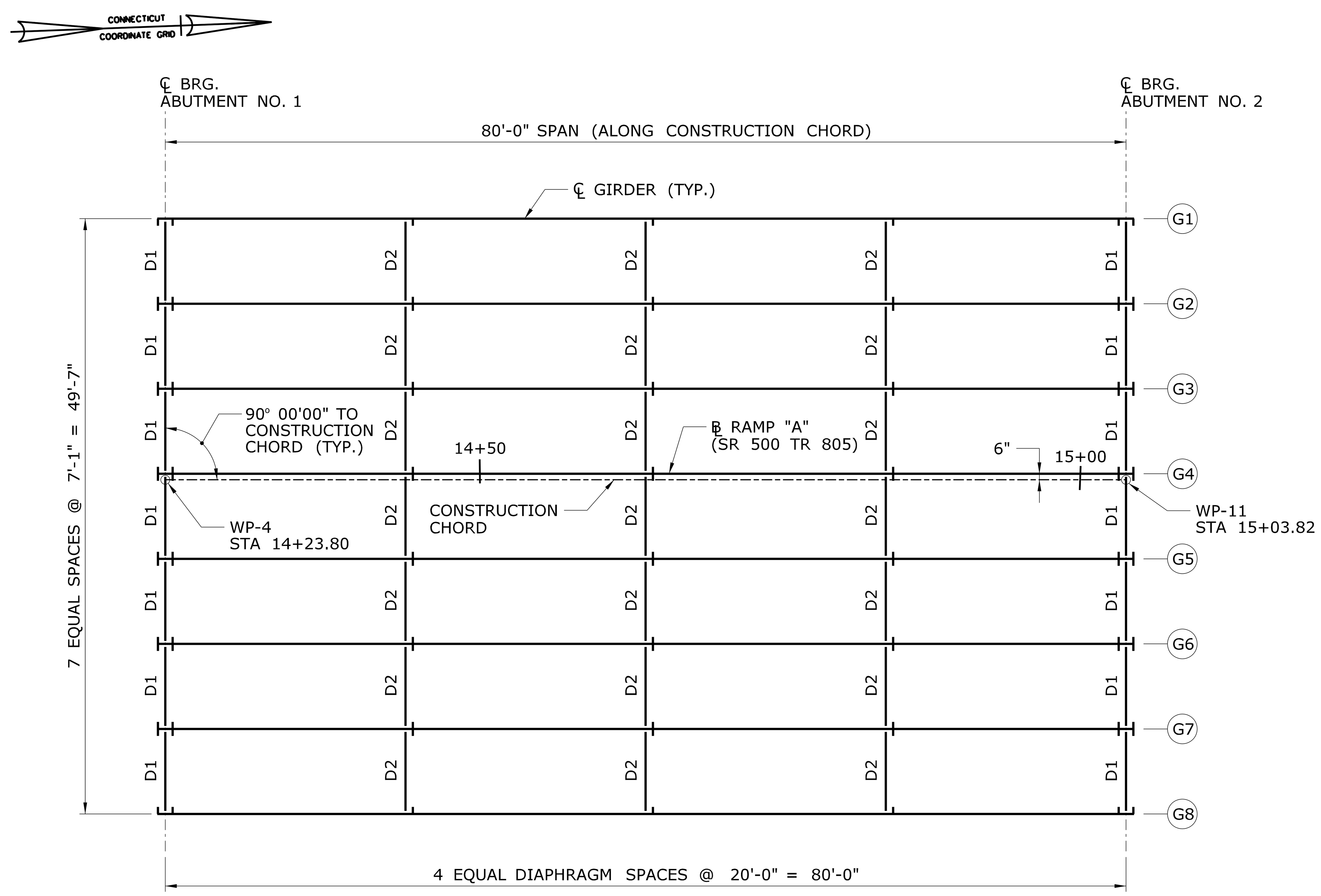
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

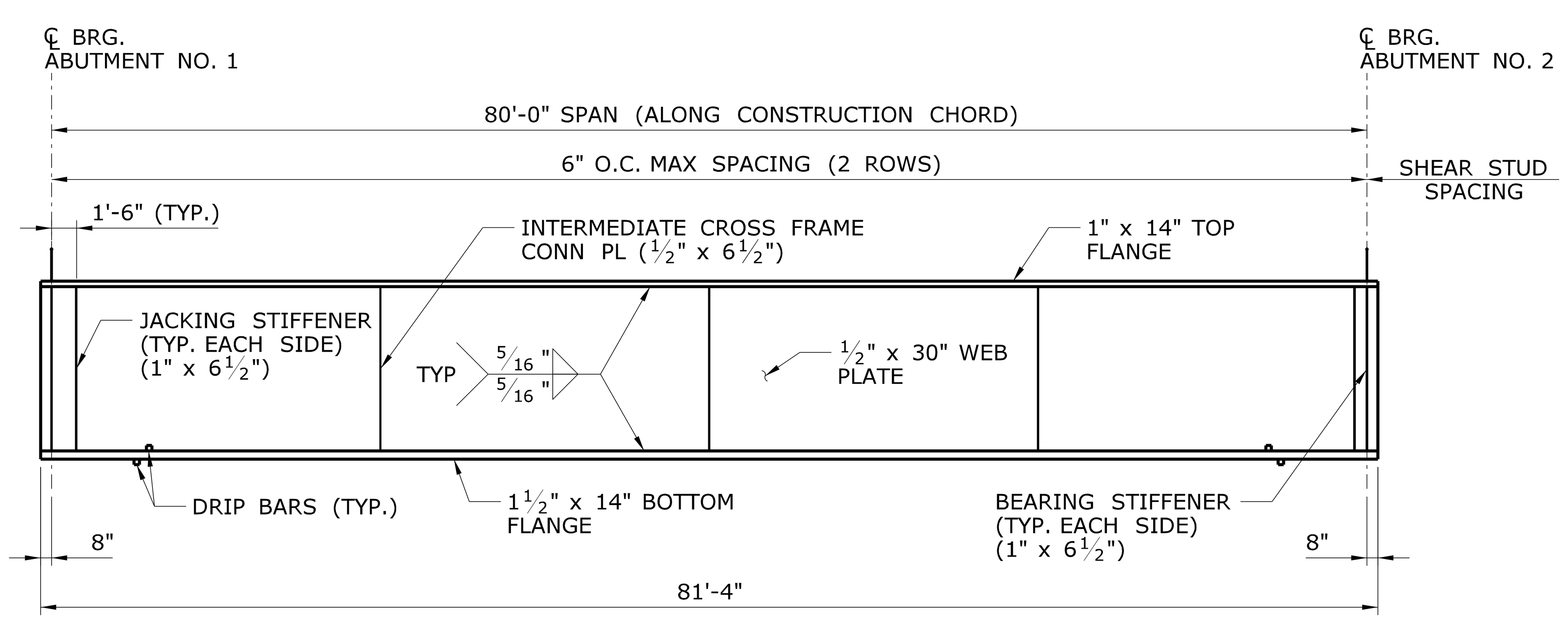
DRAWING TITLE:
MISCELLANEOUS SUBSTRUCTURE DETAILS

PROJECT NO. **042-304**
DRAWING NO. **S-23**
SHEET NO. **01.04.23**



FRAMING PLAN

SCALE: 1/8" = 1'-0"



GIRDER ELEVATION

NOT TO SCALE

CAMBER NOTES:

1. STRUCTURAL STEEL DEAD LOAD DEFLECTION INCLUDES WEIGHT OF GIRDERS AND DIAPHRAGMS.
2. ADDITIONAL DEAD LOAD DEFLECTION INCLUDES WEIGHT OF UNCURED CONCRETE SLAB, HAUNCH, AND STAY-IN-PLACE FORMS WHERE APPLICABLE.
3. COMPOSITE DEAD LOAD DEFLECTION INCLUDES PARAPETS, AND BITUMINOUS CONCRETE WEARING SURFACE.
4. CAMBER DUE TO VERTICAL CURVE ORDINATE IS THE CAMBER REQUIRED FOR THE GIRDER TO FOLLOW THE ROADWAY VERTICAL CURVE.
5. THE TOTAL CAMBER IS EQUAL TO THE SUMMATION OF ALL CALCULATED CAMBERS AND IS THE DIMENSION TO WHICH THE MEMBER IS TO BE FABRICATED.
6. SAY-IN-PLACE FORMS ASSUMED TO WEIGH 5 PSF.

DEAD LOAD DEFLECTION AND CAMBER TABLE

DL DEFLECTION AT MIDSPAN (IN)				CAMBER AT MIDSPAN (IN)			
GIRDER ID	STEEL DL	ADD'L DL	COMPOSITE DL	TOTAL DL DEFLECTION	VERT CURVE ORDINATE	EXTRA CAMBER	TOTAL CAMBER
G1	0.62	2.56	0.73	3.90	1.03	0.00	4.93
G2	0.64	2.65	0.70	3.99	1.05	0.00	5.04
G3	0.64	2.65	0.70	3.99	1.06	0.00	5.05
G4	0.64	2.65	0.70	3.99	1.08	0.00	5.06
G5	0.64	2.65	0.70	3.99	1.09	0.00	5.08
G6	0.64	2.65	0.70	3.99	1.11	0.00	5.10
G7	0.64	2.65	0.70	3.99	1.12	0.00	5.11
G8	0.62	2.56	0.73	3.90	1.14	0.00	5.04

FUTURE JACKING DESIGN DATA

(UNFACTORED GIRDER REACTIONS IN KIPS)

GIRDER	ABUTMENT 1		ABUTMENT 2	
	DL	LL+I	DL	LL+I
G1	55	70	55	70
G2	60	85	60	85
G3	60	85	60	85
G4	60	85	60	85
G5	60	85	60	85
G6	60	85	60	85
G7	60	85	60	85
G8	55	70	55	70

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL (LOW ALLOY) SHALL CONFORM TO AASHTO M270, GRADE 50WT2.
2. WELDING DETAILS, PROCEDURES AND TESTING METHODS SHALL CONFORM TO ANSI/AASHTO/AWS D1.5-(2012) - BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
3. FIELD SPLICES WILL NOT BE ALLOWED EXCEPT WITH THE WRITTEN PERMISSION OF THE ENGINEER PRIOR TO THE SUBMISSION OF SHOP PLANS. IF ALLOWED, THESE SPLICES SHALL BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE COST OF THESE SPLICES, INCLUDING THE COST OF DESIGN, SHALL BE AT NO EXTRA EXPENSE TO THE STATE.
4. ALL WEB TO FLANGE, WEB TO BEARING STIFFENER AND BEARING STIFFENER TO FLANGE FILLET WELDS SHALL BE INSPECTED IN THEIR ENTIRETY BY THE MAGNETIC PARTICLE METHOD.
5. MULTIPLE PASS WELDS, INSPECTED BY THE MAGNETIC PARTICLE METHOD SHALL HAVE EACH PASS OR LAYER INSPECTED AND ACCEPTED BEFORE PROCEEDING TO THE NEXT PASS OR LAYER, AS DETERMINED BY THE ENGINEER.
6. SHOP WEB SPLICES SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SPAN.
7. SHOP FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF SIX INCHES FROM WEB SPLICES.
8. FLANGE OR WEB SPLICES SHALL BE LOCATED A MINIMUM OF SIX INCHES FROM STIFFENERS AND CONNECTION PLATES.
9. BEARING STIFFENERS, JACKING STIFFENERS, AND THE ENDS OF GIRDERS SHALL BE VERTICAL AFTER THE APPLICATION OF FULL DEAD LOADS.
10. THE STRUCTURAL STEEL FABRICATORS SHALL BE CERTIFIED UNDER AISC QUALITY CONTROL PROGRAM AS "CATEGORY MBR - MAJOR STEEL BRIDGES".
11. THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY OF ALL STRUCTURAL ELEMENTS UNTIL THE TOTAL STRUCTURE IS IN BEING.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ANY ADDITIONAL TEMPORARY BRACING REQUIRED TO MAINTAIN THE GEOMETRY OF THE INDIVIDUAL PLATE GIRDERS, AS WELL AS THE TOTAL STEEL STRUCTURE, THROUGHOUT ALL PHASES OF CONSTRUCTION INCLUDING PLACEMENT OF CONCRETE DECK.

FRAMING NOTES:

1. ALL DIMENSIONS ARE HORIZONTAL AND MEASURED ALONG THE CENTERLINE OF THE WEB.
2. BEARING AND JACKING STIFFENERS SHALL BE PROVIDED ON BOTH SIDES OF THE WEB.
3. COST OF BEVELED SOLE PLATES SHALL BE PAID FOR UNDER THE ITEM "STRUCTURAL STEEL (SITE NO. 1)".
4. DIAPHRAGMS SHALL BE PARALLEL TO THE CENTERLINE OF BEARINGS.
5. NO ATTACHMENT SHALL BE FILLET WELDED, PLUG WELDED OR TACK WELDED TO THE BOTTOM FLANGE.

FUTURE JACKING NOTES:

1. BEVELED JACKING PLATES WILL BE REQUIRED FOR FUTURE JACKING OF THE GIRDERS. LOCATION OF THE PLATES SHALL COINCIDE WITH JACKING STIFFENERS. JACKING PLATE SHALL BE SIZED ACCORDING TO METHOD OF JACKING USED AND SHALL BE DESIGNED BY PARTIES PERFORMING JACKING OPERATIONS.
2. FOR FUTURE JACKING LOADS, SEE TABLE ON THIS SHEET.

REFERENCES:

1. FOR BEARING POINT COORDINATES, SEE DWG. NO. S-4.
2. FOR DIAPHRAGM DETAILS, SEE DWG. NO. S-25.
3. FOR BEARING AND JACKING STIFFENER DETAILS, SEE DWG. NO. S-25.
4. FOR CONNECTION PLATE DETAIL, SEE DWG. NO. S-25.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD

CHECKED BY: JCH

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_24FRAME_PLAN.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

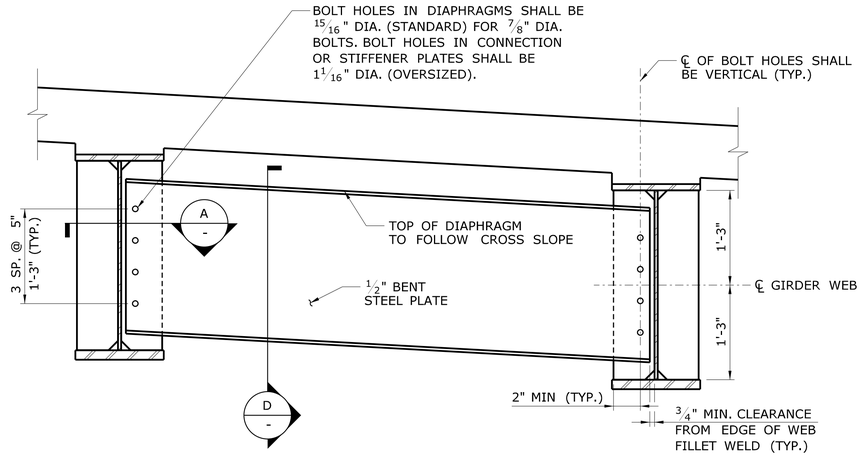
TOWN: EAST HARTFORD

DRAWING TITLE: FRAMING PLAN

PROJECT NO. 042-304

DRAWING NO. S-24

SHEET NO. 01.04.24



INTERMEDIATE DIAPHRAGM (D2)

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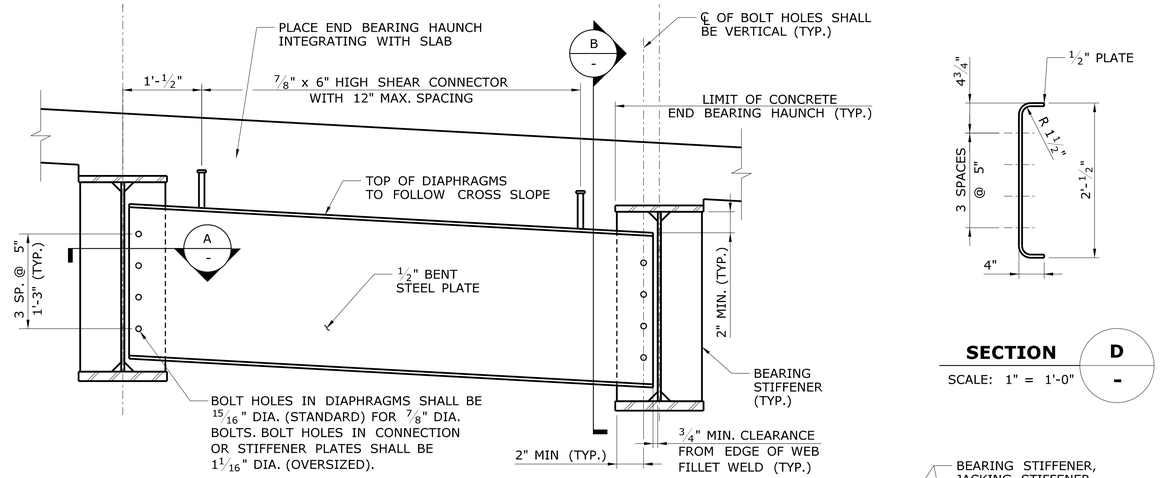
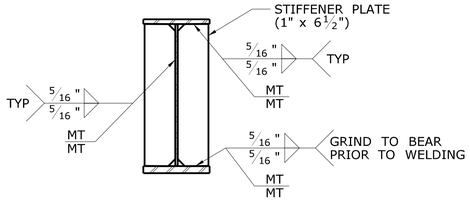


END BEARING DIAPHRAGM (D1)

SCALE: 1" = 1'-0"

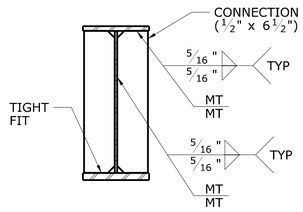
SECTION D

SCALE: 1" = 1'-0"



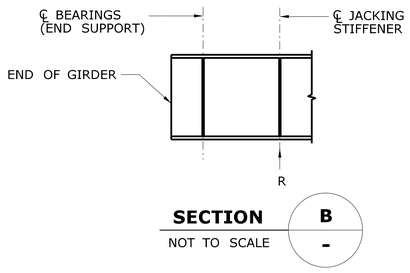
BEARING AND JACKING STIFFENER

SCALE: 3/4" = 1'-0"



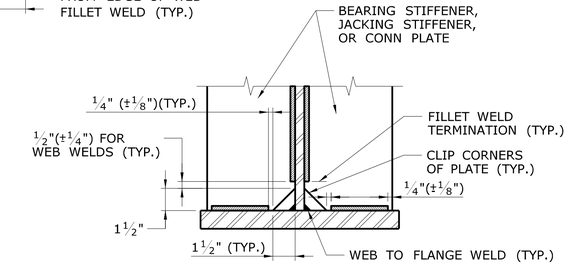
CONNECTION PLATE

SCALE: 3/4" = 1'-0"



SECTION B

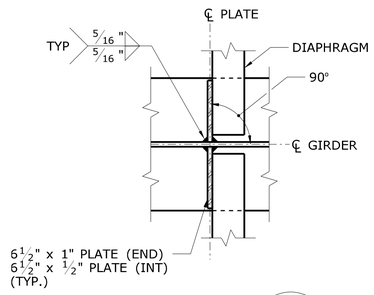
NOT TO SCALE



NOTE: DETAIL SHOWN FOR BOTTOM FLANGE, TOP FLANGE SIMILAR.

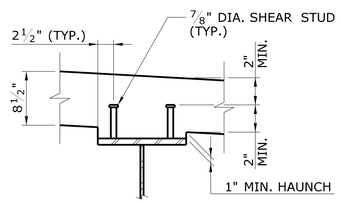
CLIP AND WELD TERMINATION

SCALE: NOT TO SCALE



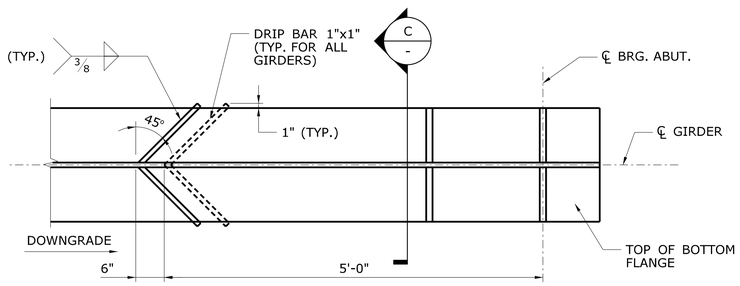
SECTION A

SCALE: 1 1/2" = 1'-0"



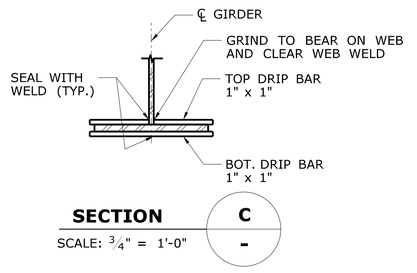
SHEAR STUD CONNECTOR DETAIL

SCALE: 1" = 1'-0"



DRIP BAR DETAIL

SCALE: 3/4" = 1'-0"



SECTION C

SCALE: 3/4" = 1'-0"

REFERENCES:

1. FOR FRAMING PLAN AND GIRDER ELEVEATION, SEE DWG. NO. S-24.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_2SSTEEL_DTLS.dgn

SIGNATURE/ BLOCK:

JAMES C. HALL JR. LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

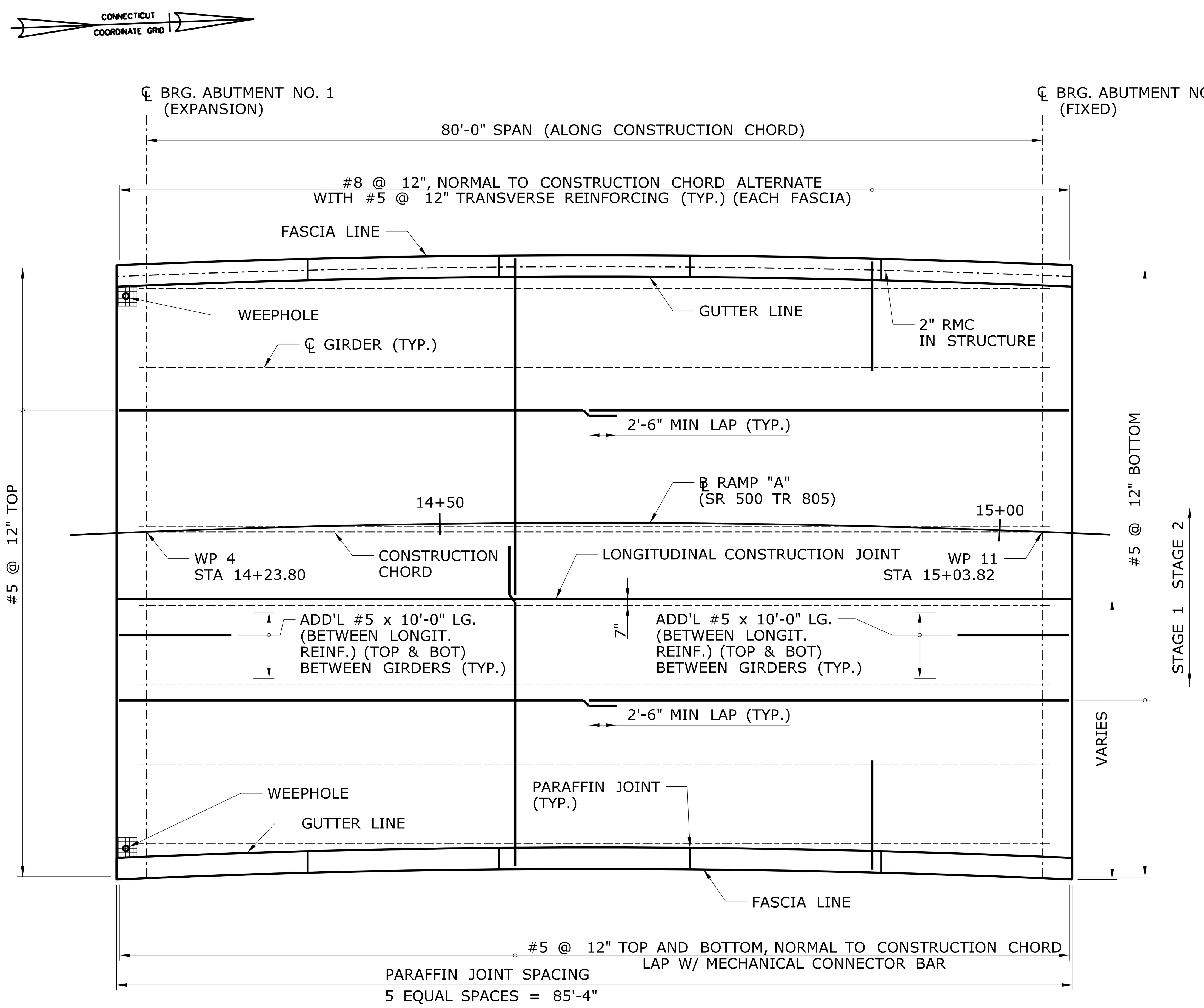
PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **DIAPHRAGM AND STEEL DETAILS**

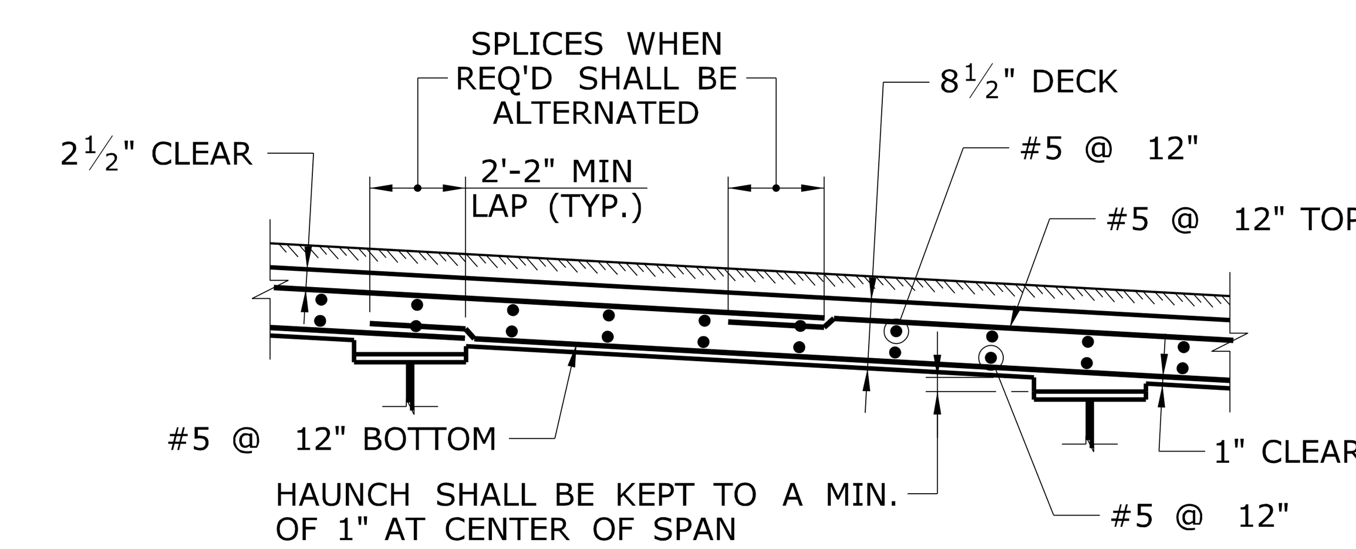
PROJECT NO. **042-304**
DRAWING NO. **S-25**
SHEET NO. **01.04.25**

TOP OF SLAB ELEVATIONS											
GIRDER ID	℄ BRG ABUT. 1	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	℄ BRG ABUT. 2
G1	35.93	35.94	35.95	35.94	35.93	35.91	35.88	35.85	35.80	35.75	35.69
G2	36.04	36.05	36.05	36.05	36.04	36.02	35.99	35.95	35.91	35.85	35.79
G3	35.84	35.83	35.81	35.80	35.78	35.76	35.73	35.70	35.67	35.63	35.59
G4	35.45	35.44	35.43	35.41	35.39	35.37	35.34	35.31	35.28	35.24	35.20
G5	35.06	35.05	35.04	35.02	35.00	34.98	34.95	34.92	34.89	34.85	34.81
G6	34.67	34.66	34.65	34.63	34.61	34.59	34.56	34.53	34.50	34.46	34.42
G7	34.28	34.27	34.26	34.24	34.22	34.20	34.17	34.14	34.11	34.07	34.02
G8	33.89	33.88	33.87	33.85	33.83	33.81	33.78	33.75	33.71	33.68	33.63



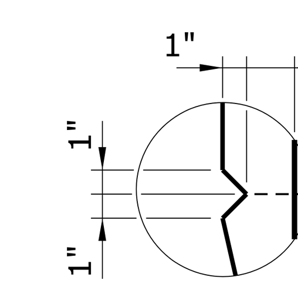
DECK PLAN

SCALE: 1/8" = 1'-0"



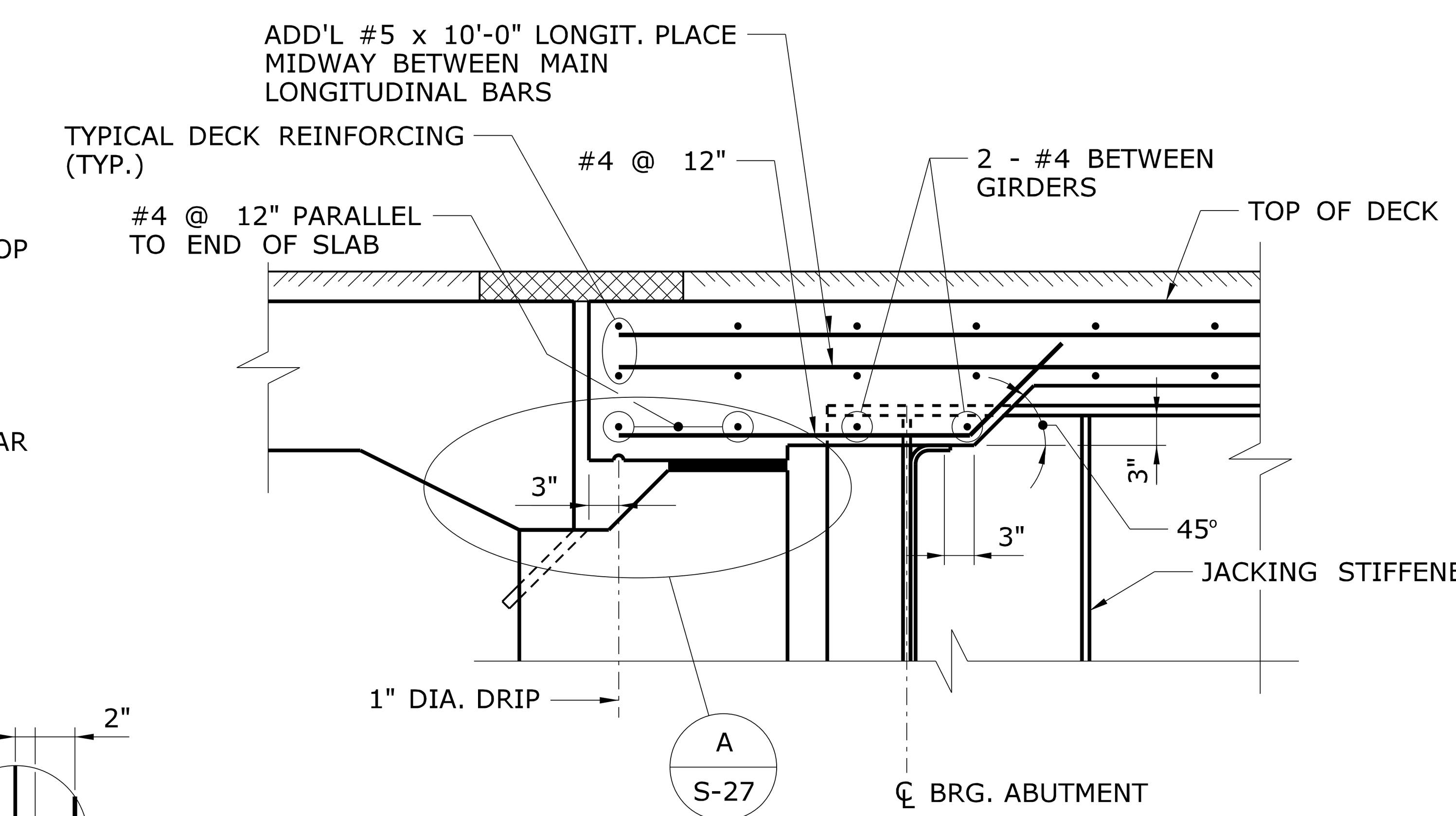
TYPICAL SLAB REINFORCMENT SECTION

SCALE: 1/2" = 1'-0"



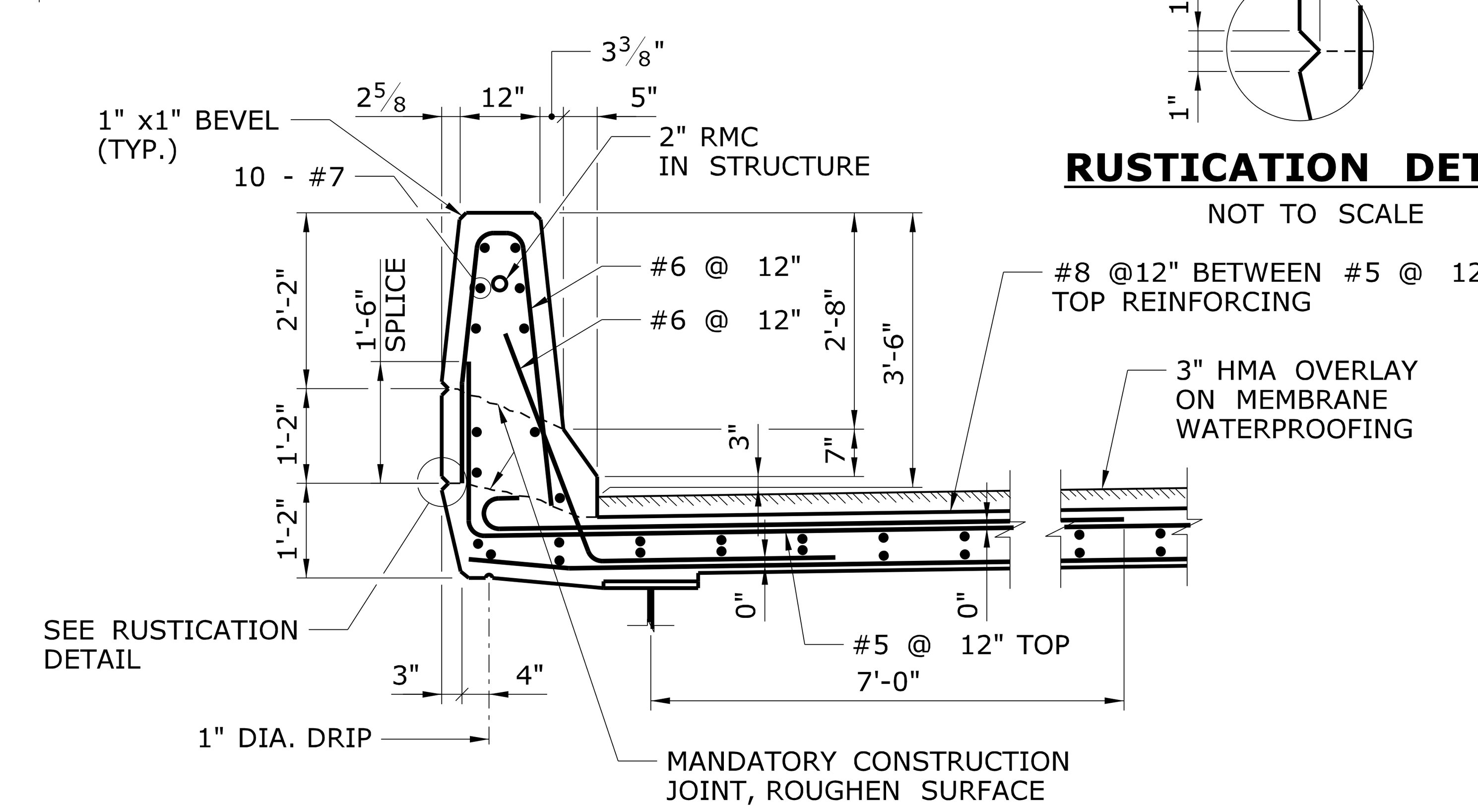
RUSTICATION DETAIL

NOT TO SCALE



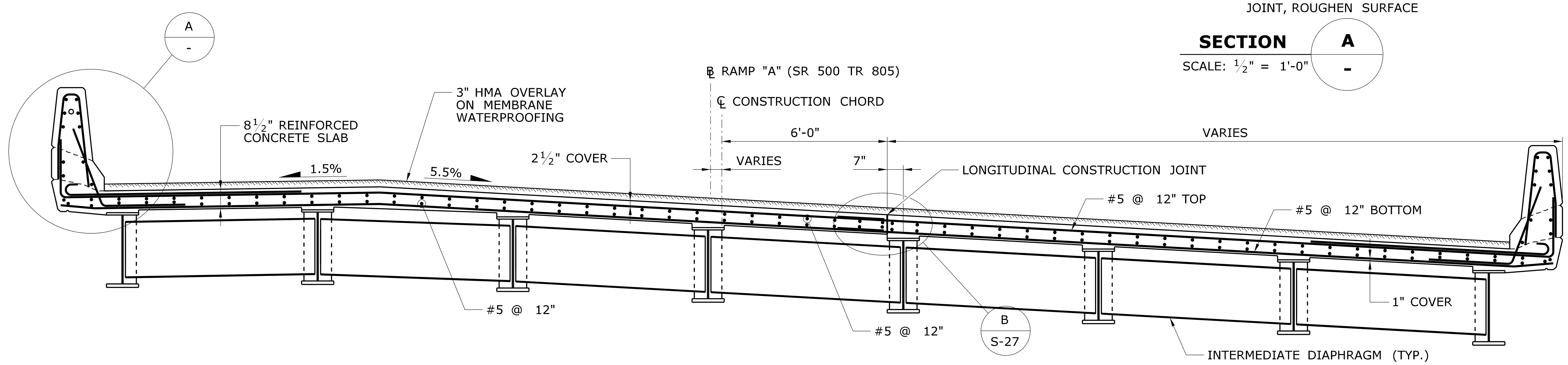
SLAB END HAUNCH DETAIL

SCALE: 3/4" = 1'-0"



SECTION A/-

SCALE: 1/2" = 1'-0"



DECK REINFORCEMENT SECTION

SCALE: 3/8" = 1'-0"

HAUNCH NOTES:

1. PRIOR TO PLACING SLAB FORMS, THE CONTRACTOR SHALL TAKE ELEVATIONS ALONG THE TOP OF THE BEAMS AT POINTS SHOWN IN THE TABLE.
2. THE HAUNCH THICKNESS SHALL BE DETERMINED AS FOLLOWS:

   FINISHED TOP OF SLAB ELEVATION = A
   SLAB THICKNESS = B
   TOP OF BEAM ELEVATION = C (FIELD MEASURED)
   ADDITIONAL DEAD LOAD DEFLECTION = D
   COMPOSITE DEAD LOAD DEFLECTION = E
   HAUNCH THICKNESS = (A+B) + D + E - C

3. THE MINIMUM HAUNCH THICKNESS SHALL BE 1". IF IT IS DETERMINED THAT THE HAUNCH CANNOT BE MAINTAINED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

NOTES:

1. CLASS "F" CONCRETE SHALL BE USED THROUGHOUT THE ENTIRE DECK AND PARAPETS.
2. ALL REINFORCING IN THE CONCRETE DECK, AND PARAPETS SHALL BE EPOXY COATED, UNLESS OTHERWISE NOTED, AND SHALL BE PAID FOR IN THE ITEM "DEFORMED STEEL BARS (EPOXY COATED)".
3. THE PARAFFIN JOINTS IN PARAPET ARE TO BE CONSTRUCTED AS INDICATED.

REFERENCES:

1. FOR WORKING POINT COORDINATES, SEE DWG. NO. S-4.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**
CHECKED BY: **JCH**
SCALE AS NOTED

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_26DECK_PLAN.dgn

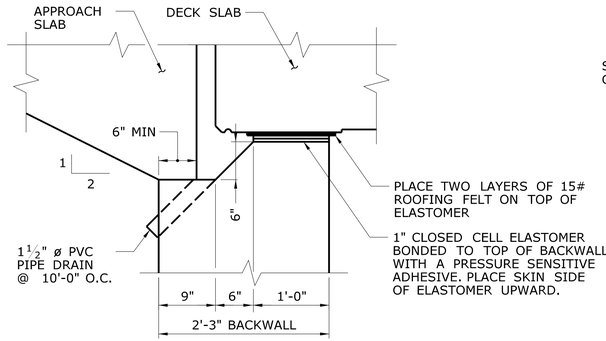
SIGNATURE/BLOCK: McFARLAND JOHNSON, 53 REGIONAL DRIVE, CONCORD, NH 03301

PROJECT TITLE: **REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833**

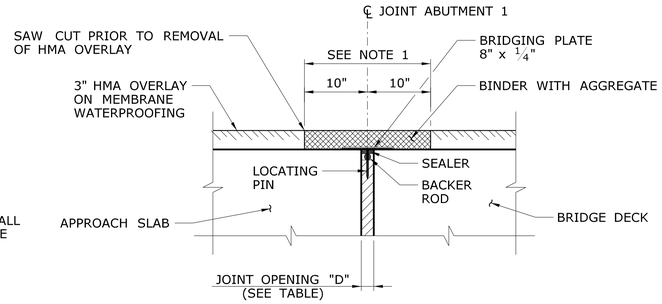
TOWN: **EAST HARTFORD**

DRAWING TITLE: **DECK REINFORCEMENT PLAN AND SECTION**

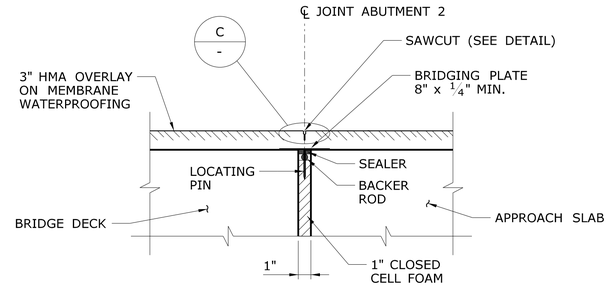
PROJECT NO. **042-304**
DRAWING NO. **S-26**
SHEET NO. **01.04.26**



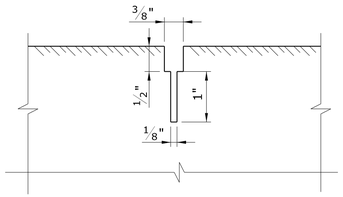
DETAIL A
SCALE: 1" = 1'-0" — S-26



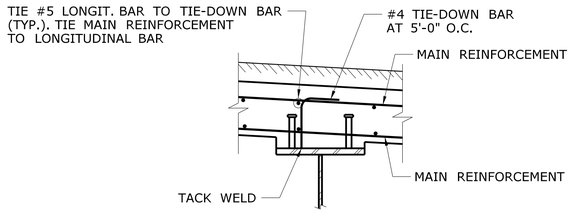
ASPHALTIC PLUG EXPANSION JOINT SYSTEM
SCALE: 1" = 1'-0"



SAWCUT JOINT
SCALE: 1" = 1'-0"



DETAIL C
NOT TO SCALE — -



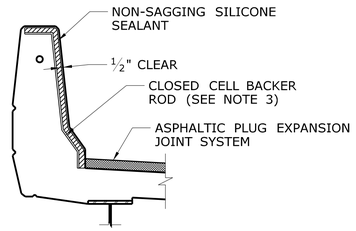
TIE DOWN NOTES:

1. TIE-DOWN BARS DO NOT EXCLUDE THE USE OF CHAIRS FOR SUPPORTING THE REINFORCEMENT MAT.
2. THE COST OF FURNISHING AND PLACING TIE-DOWN BARS TO BE INCLUDED IN THE CONTRACT ITEM "DEFORMED STEEL BARS - EPOXY COATED".
3. TIE-DOWN BARS AND LONGITUDINAL BARS SHALL CLEAR SHEAR CONNECTORS.

TIE DOWN DETAIL
SCALE: 1" = 1'-0"

ASPHALTIC PLUG JOINT OPENING TABLE

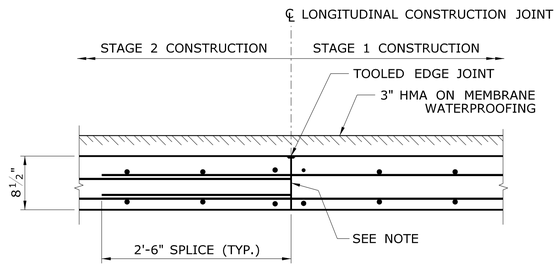
INSTALL TEMPERATURE	PERPENDICULAR JOINT OPENING "D"
40° F	1 9/16"
50° F	1½"
60° F	1 7/16"
70° F	1⅜"
80° F	1 5/16"



ASPHALTIC PLUG EXPANSION JOINT TREATMENT AT PARAPET
SCALE: ½" = 1'-0"

ASPHALTIC PLUG EXPANSION JOINT NOTES:

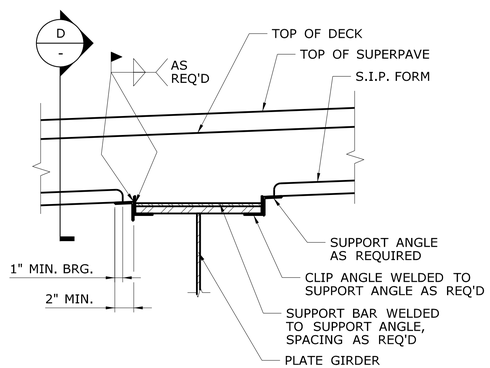
1. REMOVE NEW SUPERPAVE OVERLAY. REPLACE WITH ASPHALTIC PLUG EXPANSION JOINT SYSTEM. TO BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM". SEE SPECIAL PROVISIONS.
2. THE CLOSED CELL BACKER ROD SHALL BE PLACED A MINIMUM OF 2 INCHES FROM THE OUTSIDE FACE OF THE PARAPETS. TO BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
3. THE NON-SAGGING SILICONE SEALANT SHALL BE PLACED ON THE BACKER ROD 1/2 INCH THICK. AT THE GUTTER LINE, THE SILICONE SEALANT SHALL BE PLACED FLUSH WITH THE OUTSIDE FACE OF CONCRETE. TO BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM".
4. PRIOR TO INSTALLING THE SILICONE SEALANT, CLEAN JOINT SIDES BY SANDBLASTING . DUST SHALL BE REMOVED BY THE METHOD APPROVED BE THE ENGINEER. TO BE PAID FOR UNDER THE ITEM "ASPHALTIC PLUG EXPANSION JOINT SYSTEM". SEE SPECIAL PROVISIONS.



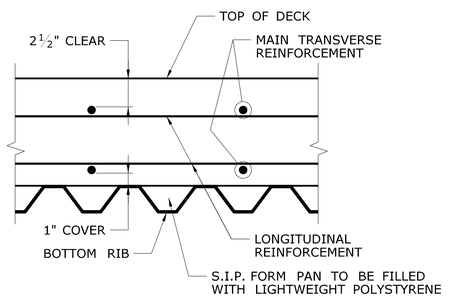
NOTE: ROUGHEN SURFACE, BLAST CLEAN THEN APPLY A NEAT CEMENT GROUT OR OTHER SUITABLE BONDING MATERIAL IMMEDIATELY PRIOR TO PLACING ADJACENT POUR. COST INCLUDED IN "CLASS F CONCRETE"

TYPICAL SECTION AT LONGITUDINAL CONSTRUCTION JOINT

DETAIL B
SCALE: 1" = 1'-0" — S-26



TYPICAL SECTION
SCALE: 1" = 1'-0"



SECTION D
NOT TO SCALE — -

S.I.P. FORM NOTES:

1. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH SPECIAL PROVISIONS, SECTION 6.01 CONCRETE FOR STRUCTURES
2. FORM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPARATE END CLOSURE PIECES WILL NOT BE ALLOWED.
3. SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBLE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP FLANGE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
4. WELDS SHALL BE ALLOWED IN THE COMPRESSION ZONE OF THE GIRDER TOP FLANGE ONLY. SEE GIRDER ELEVATIONS FOR LIMITS OF COMPRESSION ZONES. IN TOP FLANGE TENSION ZONES, BEARING STIRRUPS MAY BE USED TO SPAN OVER THE TOP FLANGE AS SHOWN. ALTERNATE STIRRUP ARRANGEMENTS SHALL BE DESIGNED BY THE CONTRACTOR. STIRRUPS SHALL MEET THE CLEARANCE REQUIREMENTS DESCRIBED ABOVE.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB..MSH..Br02374..27DECK..DTLS1.dgn

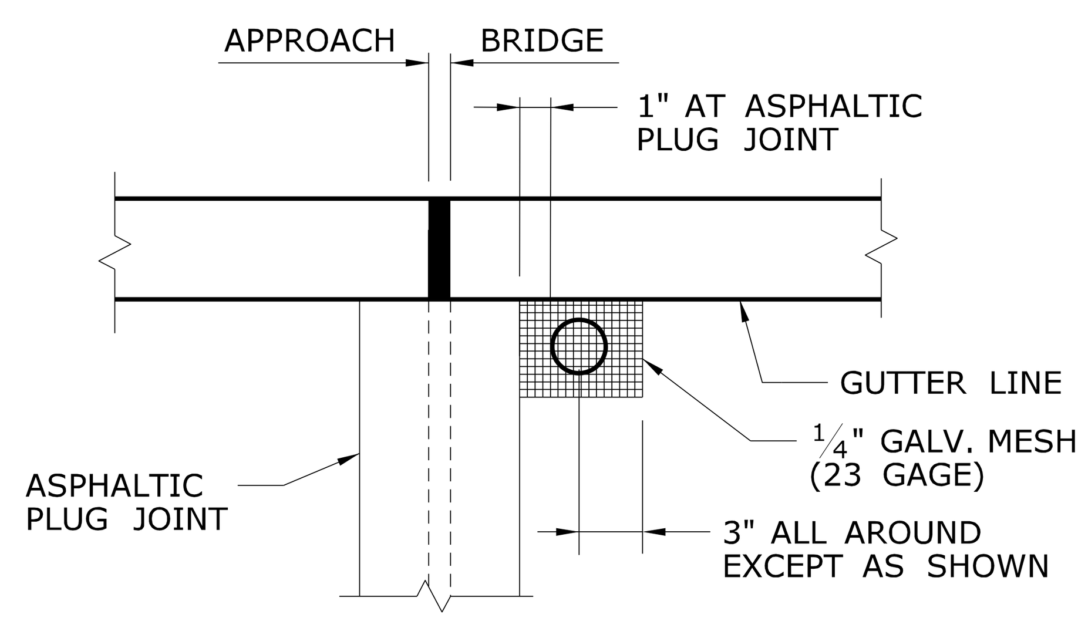
SIGNATURE/BLOCK:
JAMES C. HALEY — LICENSE — PROFESSIONAL ENGINEER
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

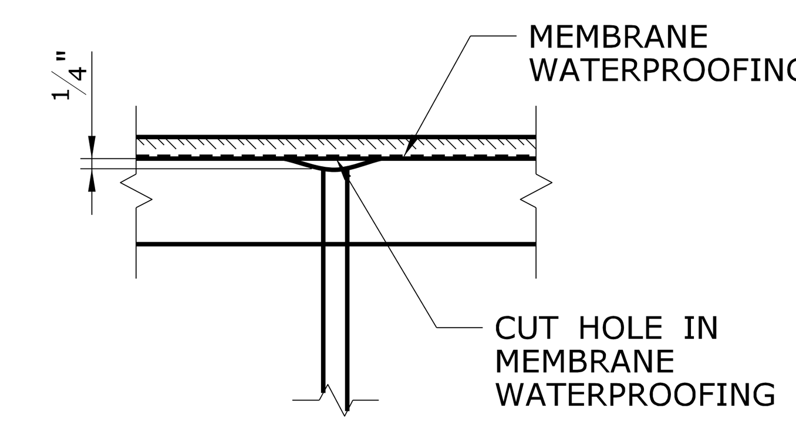
DRAWING TITLE: **DECK DETAILS (1 OF 2)**

PROJECT NO. 042-304
DRAWING NO. S-27
SHEET NO. 01.04.27



DECK WEEPHOLE PLAN

NOT TO SCALE



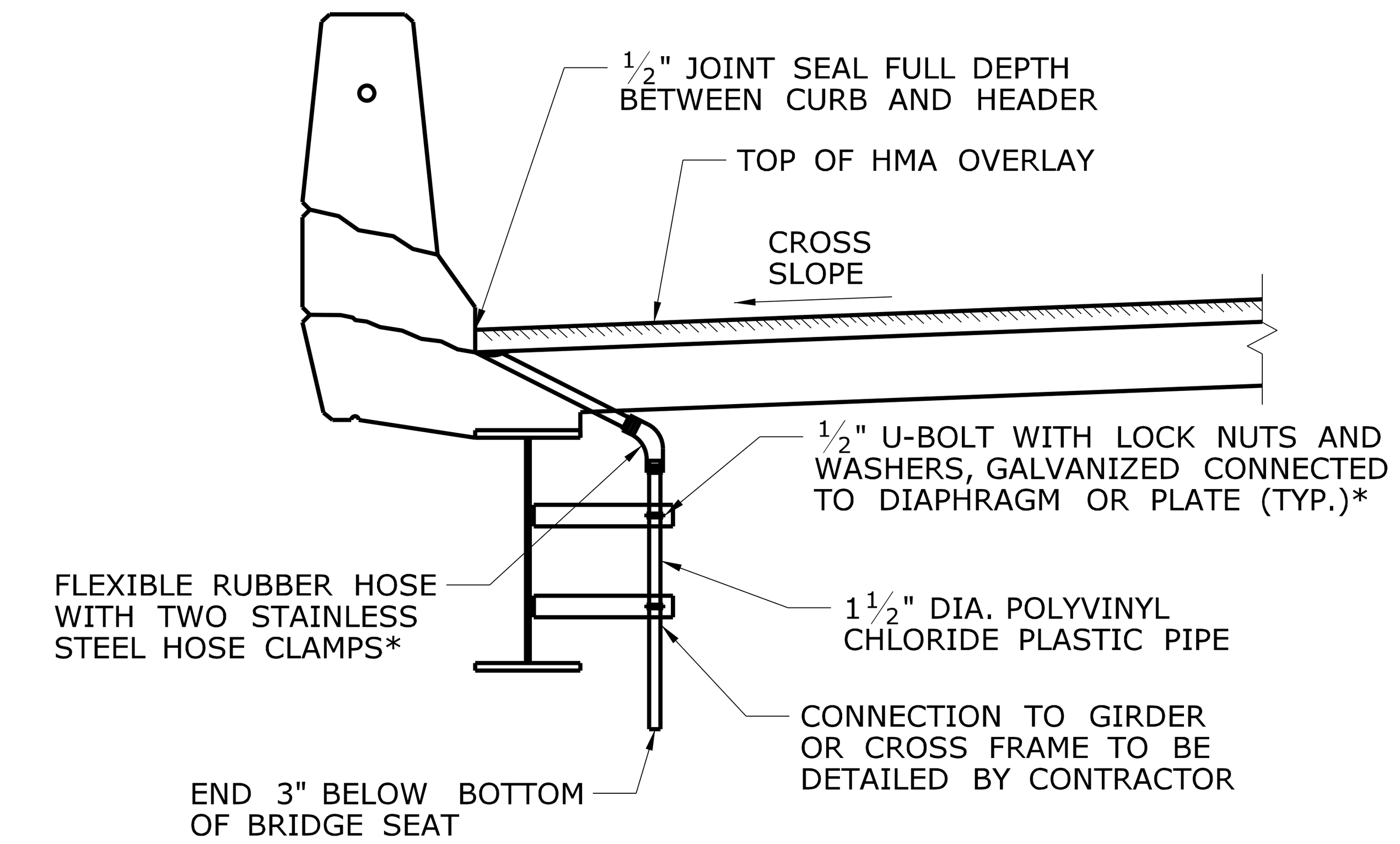
TYPICAL DRAIN DETAIL

NOT TO SCALE

NOTES: 1. THE COST OF FURNISHING AND INSTALLING $\frac{1}{4}$" SQUARE GALVANIZED MESH SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR "HMA S0.5".

2. SEE DECK PLAN FOR WEEPHOLE LOCATIONS.

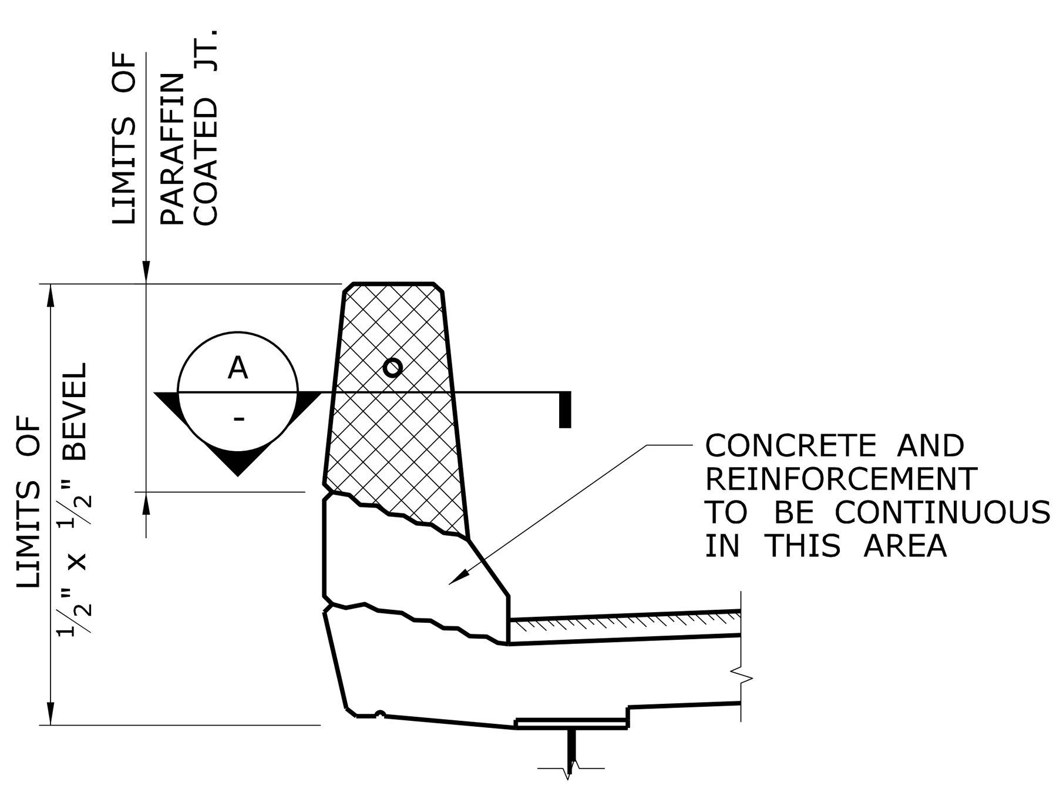
DECK WEEPHOLE DETAILS



*PAID FOR UNDER 1-$\frac{1}{2}$" POLYVINYL CHLORIDE PLASTIC PIPE

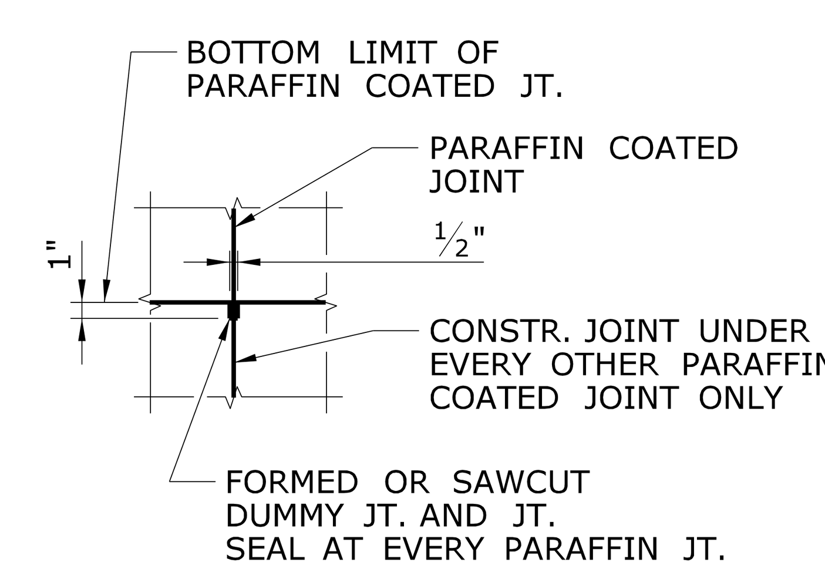
SECTION THROUGH DECK WEEPHOLE AT BRIDGE FASCIA

SCALE: $\frac{1}{2}$" = 1'-0"



PARAPET DETAIL

SCALE: $\frac{1}{2}$" = 1'-0"

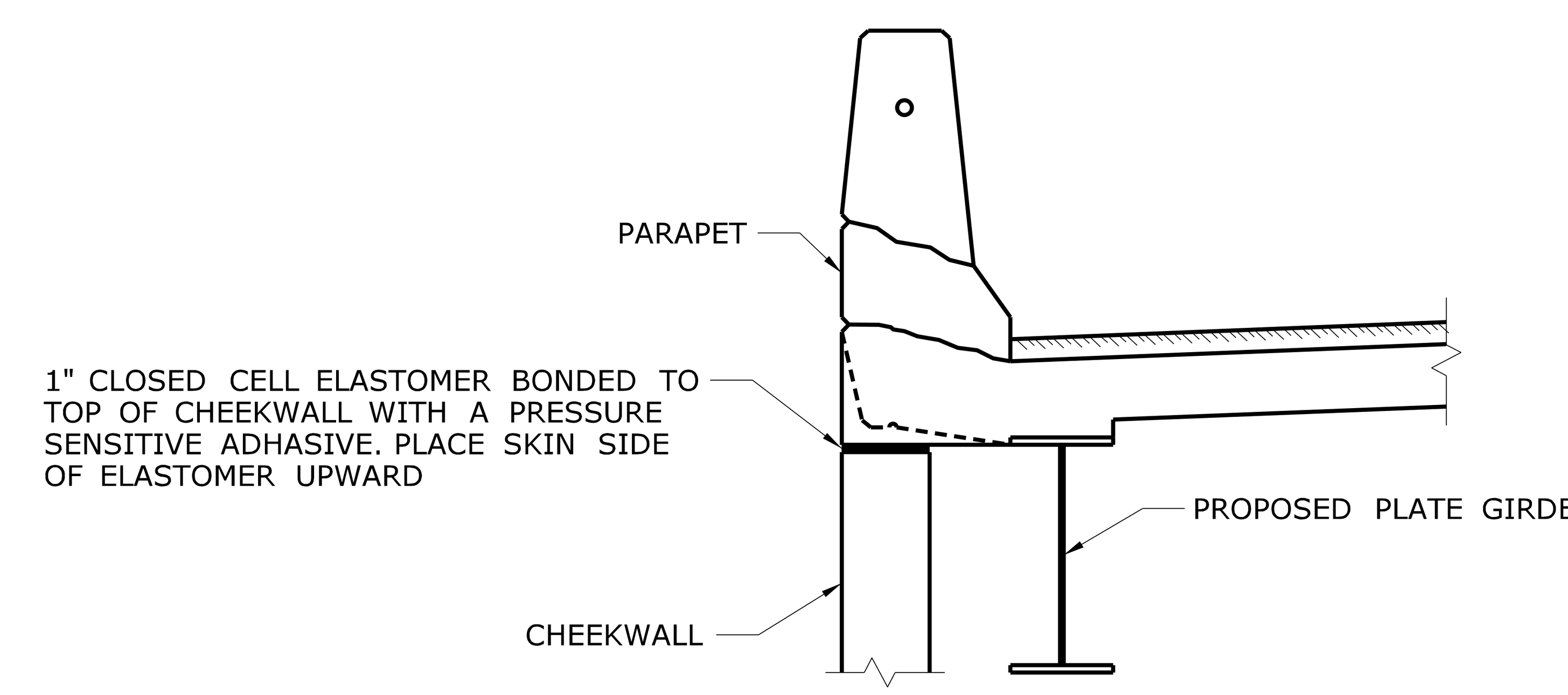


SECTION A / -

SCALE: $\frac{1}{2}$" = 1'-0"

PARAFFIN COATED JOINT DETAILS

PARAFFIN COATED AREA



PARAPET DETAIL AT ABUTMENT

SCALE: $\frac{1}{2}$" = 1'-0"

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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_28DECK_DTLS2.dgn

SIGNATURE/ BLOCK:

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE: **REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833**

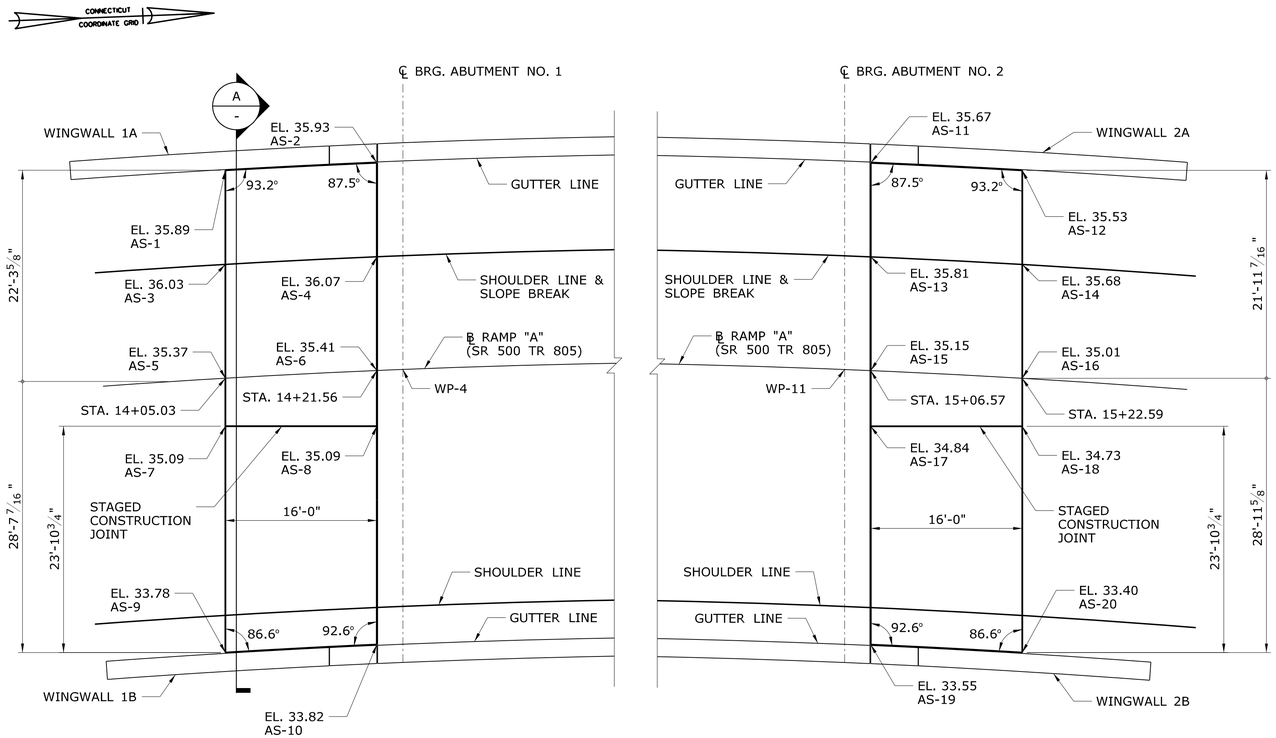
TOWN: **EAST HARTFORD**

DRAWING TITLE: **DECK DETAILS (2 OF 2)**

PROJECT NO. **042-304**

DRAWING NO. **S-28**

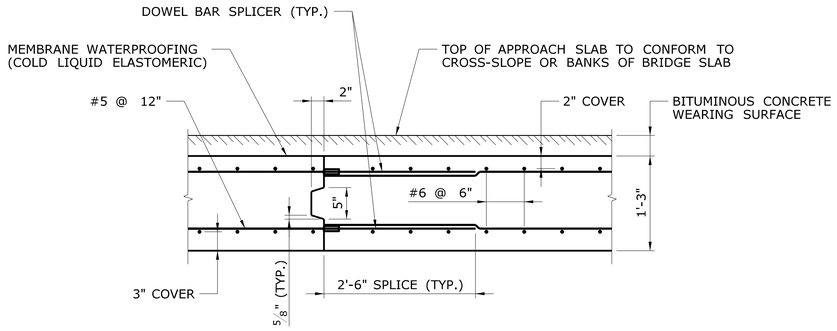
SHEET NO. **01.04.28**



NOTE: ALL ELEVATIONS SHOWN ARE APPLIED AT THE TOP OF CONCRETE APPROACH SLAB.

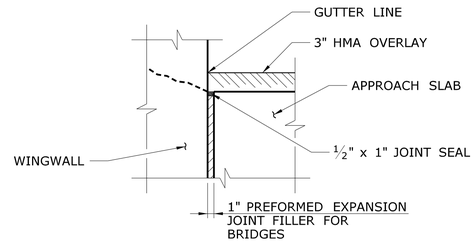
APPROACH SLAB PLAN

SCALE: 1/8" = 1'-0"



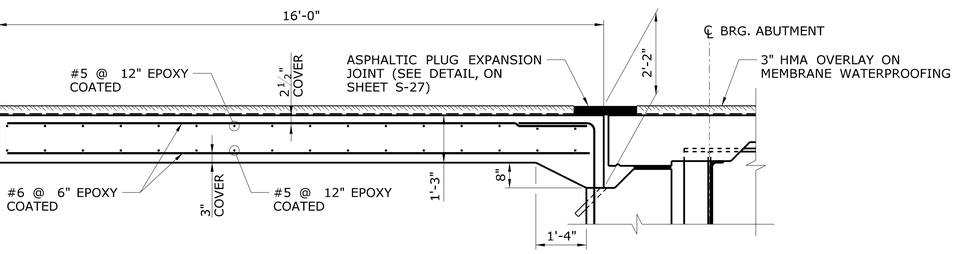
LONGITUDINAL CONSTRUCTION JOINT DETAIL

SCALE: 1" = 1'-0"



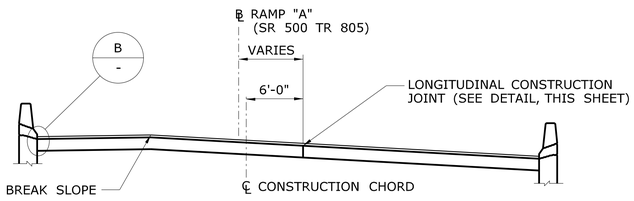
DETAIL B

SCALE: 1" = 1'-0"



TYPICAL LONGITUDINAL SECTION

SCALE: 1/2" = 1'-0"



SECTION A

SCALE: 1/8" = 1'-0"

REFERENCES:

1. FOR WORKING POINT COORDINATES, SEE DWG. NO. S-4.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: SFD
CHECKED BY: JCH
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_29APPR_SLAB.dgn

SIGNATURE/BLOCK:

JAMES C. HALL JR. LICENSED PROFESSIONAL ENGINEER

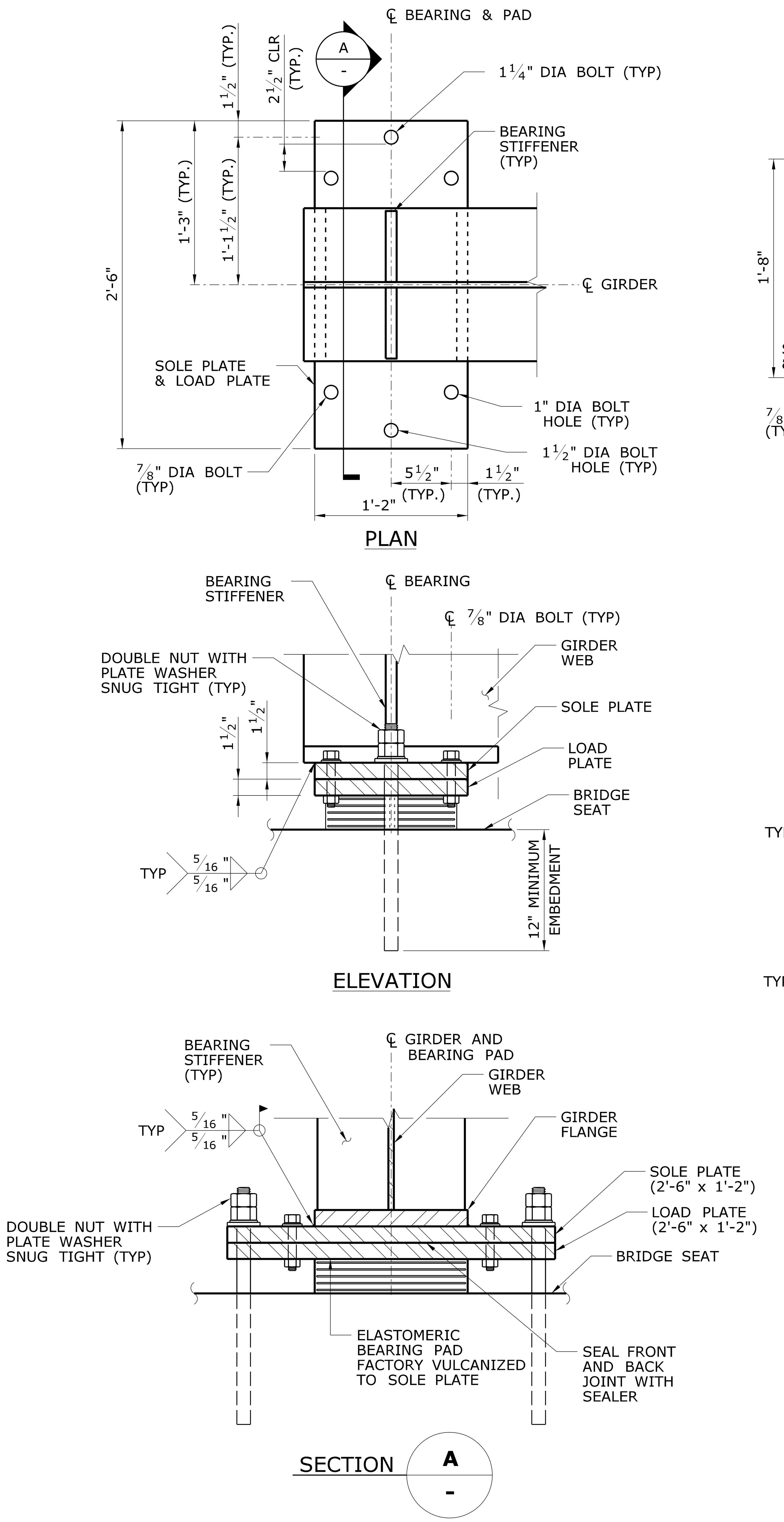
McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

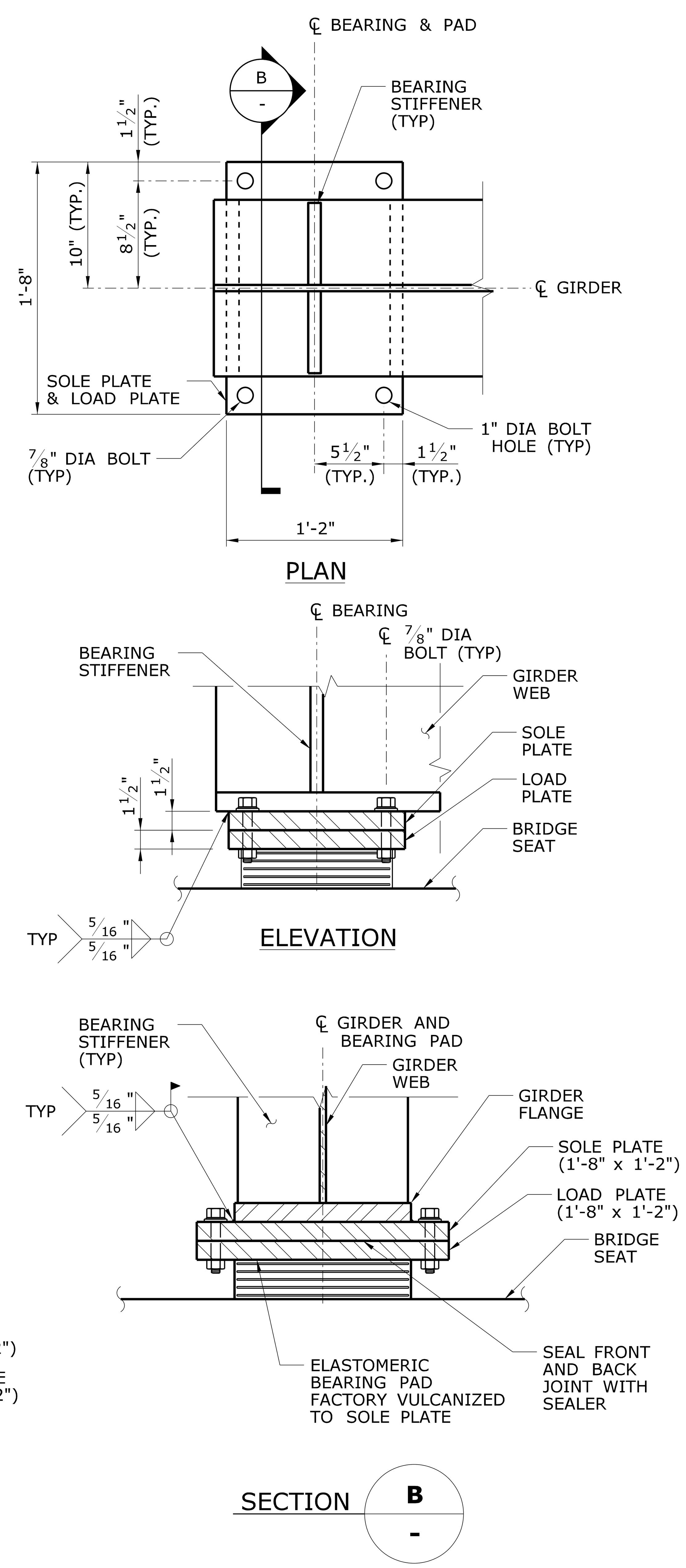
DRAWING TITLE: **APPROACH SLAB DETAILS**

PROJECT NO. **042-304**
DRAWING NO. **S-29**
SHEET NO. **01.04.29**



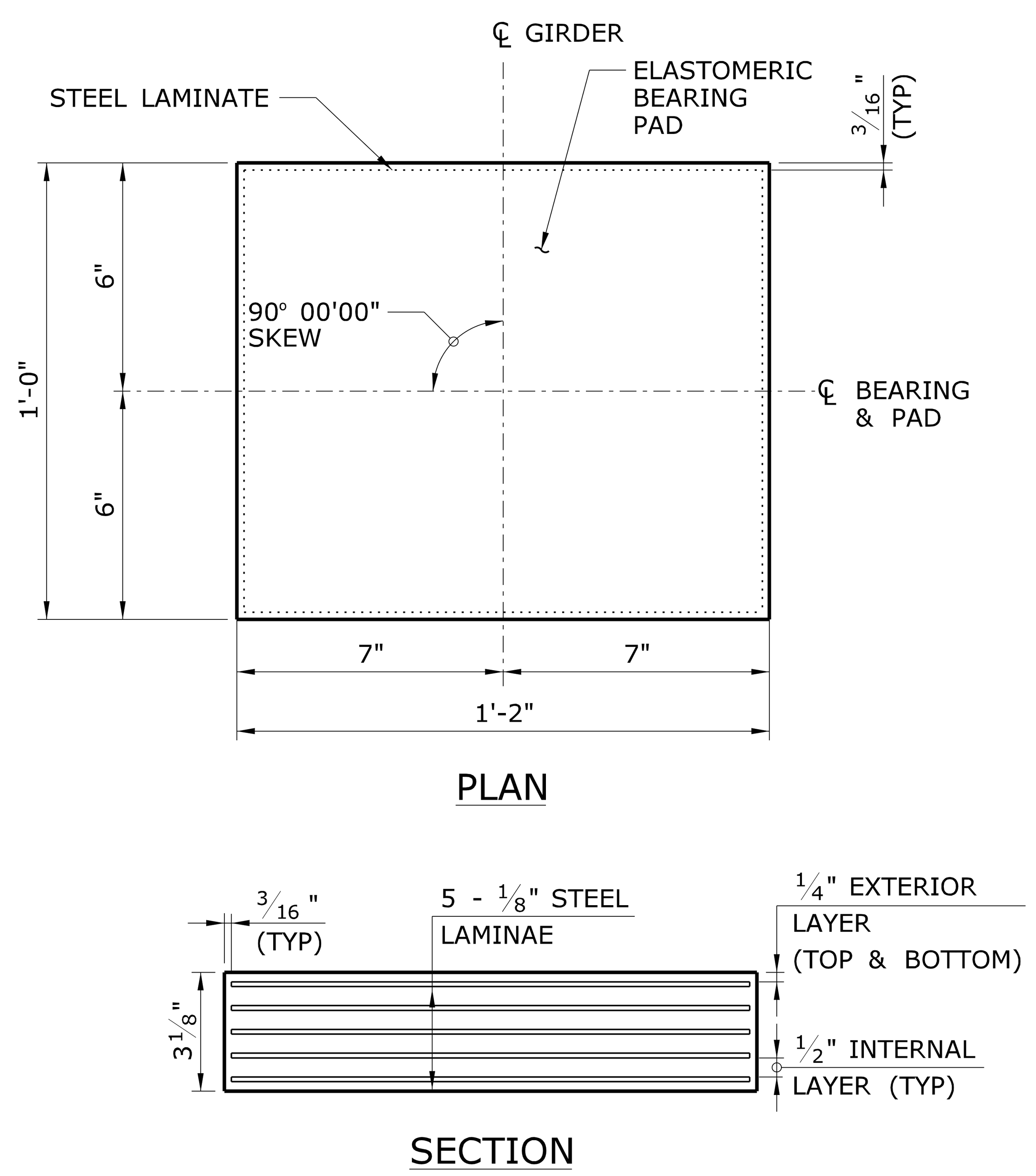
FIXED BEARING DETAIL

SCALE: 1½" = 1'-0"



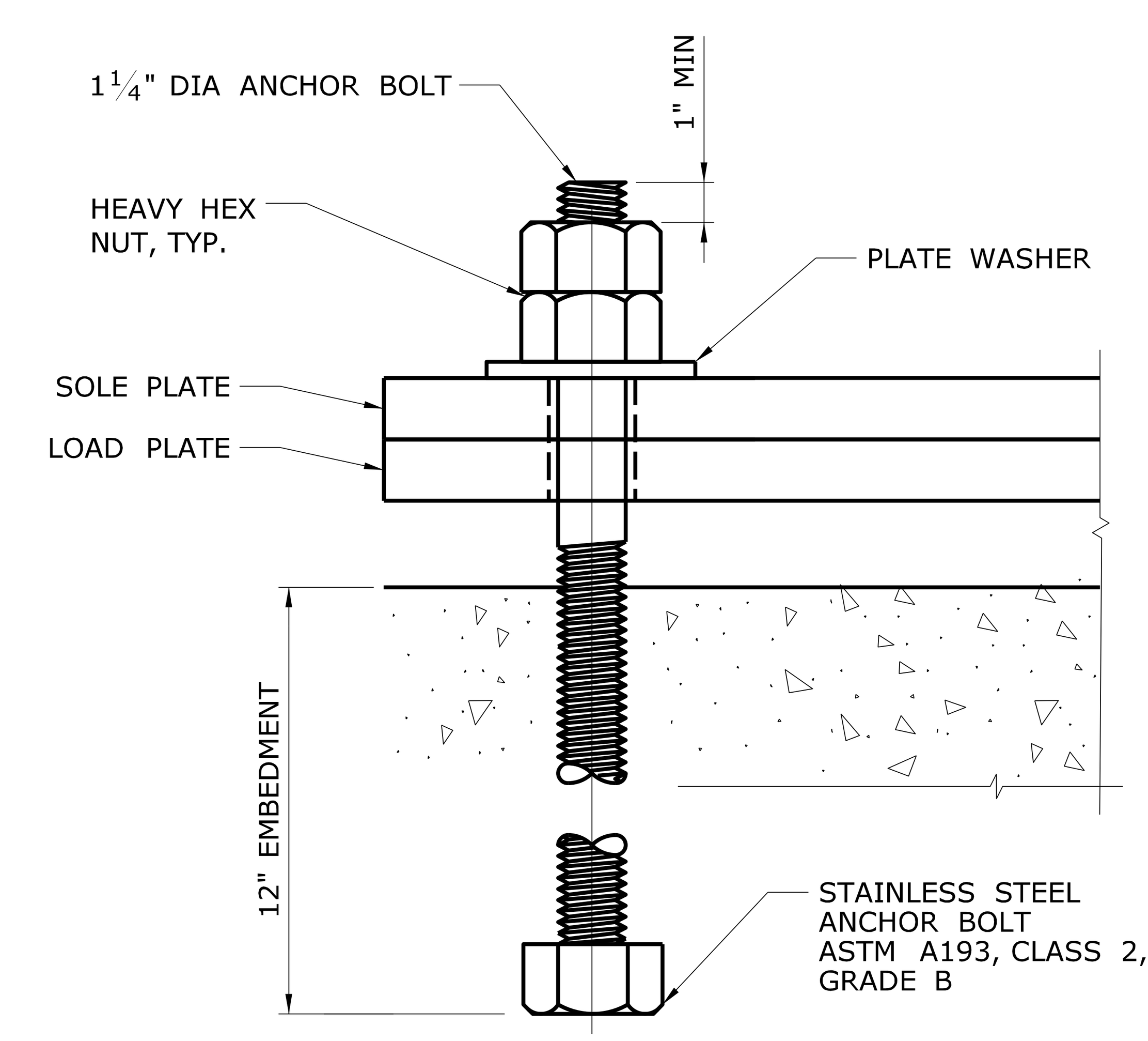
EXPANSION BEARING DETAIL

SCALE: 1½" = 1'-0"



ELASTOMERIC BEARING PAD

SCALE: 3" = 1'-0"



ANCHOR BOLT DETAIL

NOT TO SCALE

BEARING NOTES:

1. THE ELASTOMERIC BEARINGS ARE DESIGNED USING "METHOD B" OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. THE CONTACTOR SHALL SURVEY THE AS BUILT PEDESTAL MEASUREMENTS AND SUBMIT TO THE ENGINEER FOR REVIEW PRIOR TO STEEL ERECTION.
3. THE ELASTOMER SHALL CONTAIN ONLY VIRGIN POLYCHLOROPRENE (NEOPRENE) AS THE RAW POLYMER AND HAVE A SPECIFIED SHEAR MODULUS BETWEEN 0.110 KSI AND 0.150 KSI.
4. THE INTERNAL STEEL LAMINATE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A1011, GRADE 36 OR 40.
5. THE STEEL FOR THE SOLE PLATE AND LOAD PLATE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270, GRADE 50WT2 (WEATHERING STEEL) AS SPECIFIED WITHIN THE ITEM "STRUCTURAL STEEL (SITE NO. 1)"
6. THE BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 TYPE 3.
7. WELDING DETAILS, PROCEDURES AND TESTING SHALL CONFORM TO THE LATEST ANSI/AASHTO/AWS D1.5 - BRIDGE WELDING CODE, UNLESS OTHERWISE NOTED ON THE PLANS.
8. THE ELASTOMERIC BEARINGS SHALL BE INSTALLED WHEN THE AMBIENT AIR AND BEARING TEMPERATURES ARE BETWEEN 40° F AND 85° F AND HAVE BEEN WITHIN THIS RANGE FOR AT LEAST TWO HOURS.
9. THE COST OF FURNISHING AND INSTALLING THE ELASTOMERIC BEARINGS, INCLUDING THE LOAD PLATES, SHALL BE PAID FOR UNDER THE ITEM "STEEL-LAMINATED ELASTOMERIC BEARINGS." THE COST OF THE SOLE PLATES SHALL BE PAID FOR UNDER THE ITEM "STRUCTURAL STEEL (SITE NO. 1)."
10. ANCHOR BOLTS FOR THE BEARING SHALL BE SET BY TEMPLATES BEFORE CONCRETE IS PLACED.

BEARING LOADS
(UNFACTORED REACTIONS IN KIPS)

DEAD LOAD LIVE LOAD	60 KIPS 85 KIPS
TOTAL LOAD	145 KIPS

REFERENCES:

1. FOR FRAMING PLAN, SEE DWG. NO. S-24.
2. FOR GIRDER ELEVATION, SEE DWG. NO. S-24.

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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_30BEAR_DTLS.dgn

SIGNATURE/BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

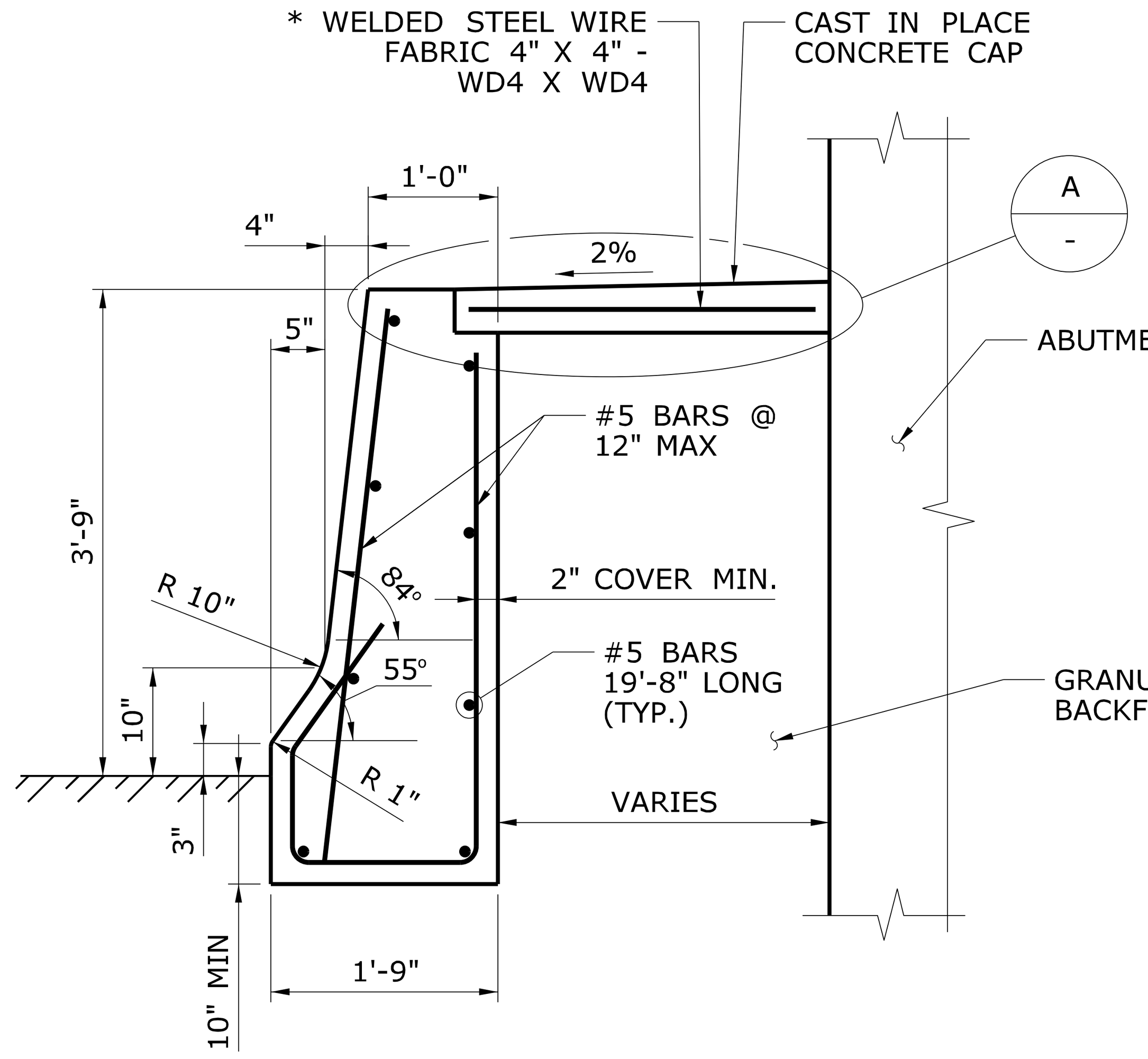
TOWN: **EAST HARTFORD**

DRAWING TITLE: **BEARING DETAILS**

PROJECT NO. **042-304**

DRAWING NO. **S-30**

SHEET NO. **01.04.30**

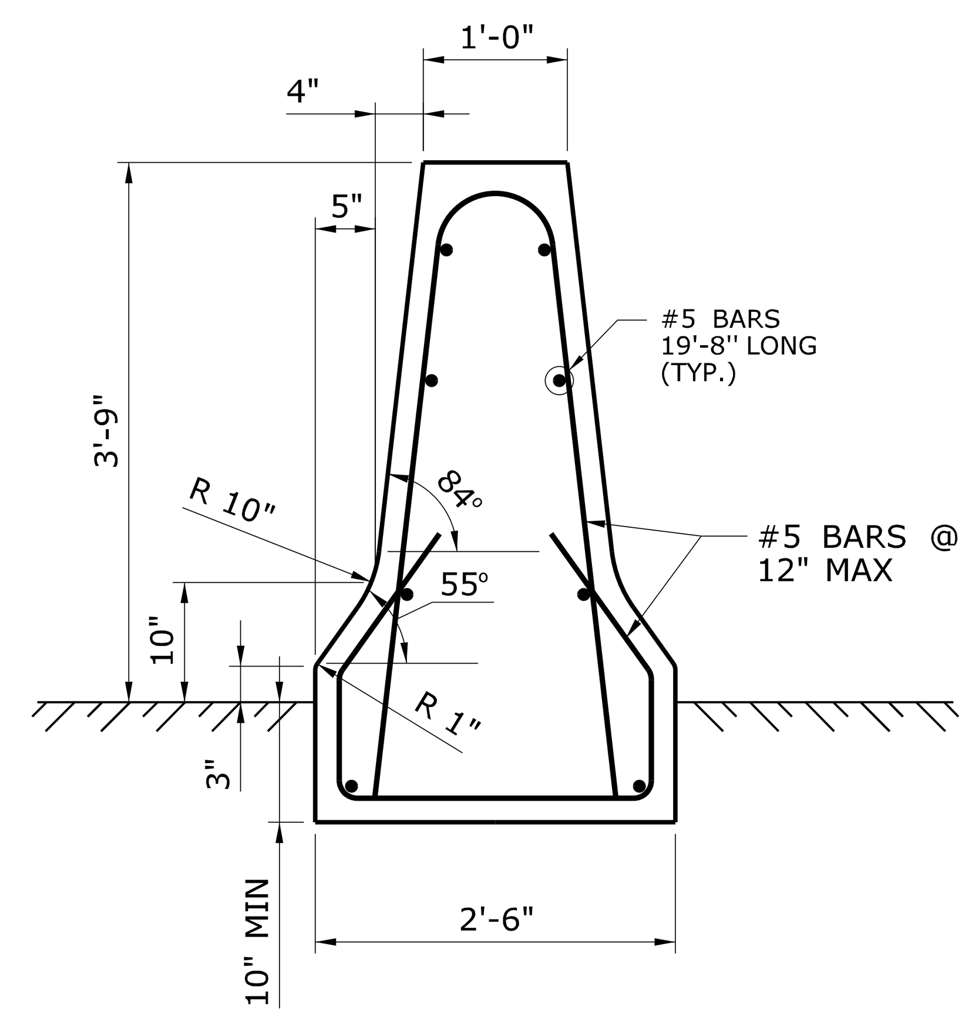


NOTE: SEE EARTHWORK SECTION ON SHEET S-23 FOR PAY LIMITS

* WELDED STEEL WIRE FABRIC SUBSIDIARY TO "CLASS "A" CONCRETE"

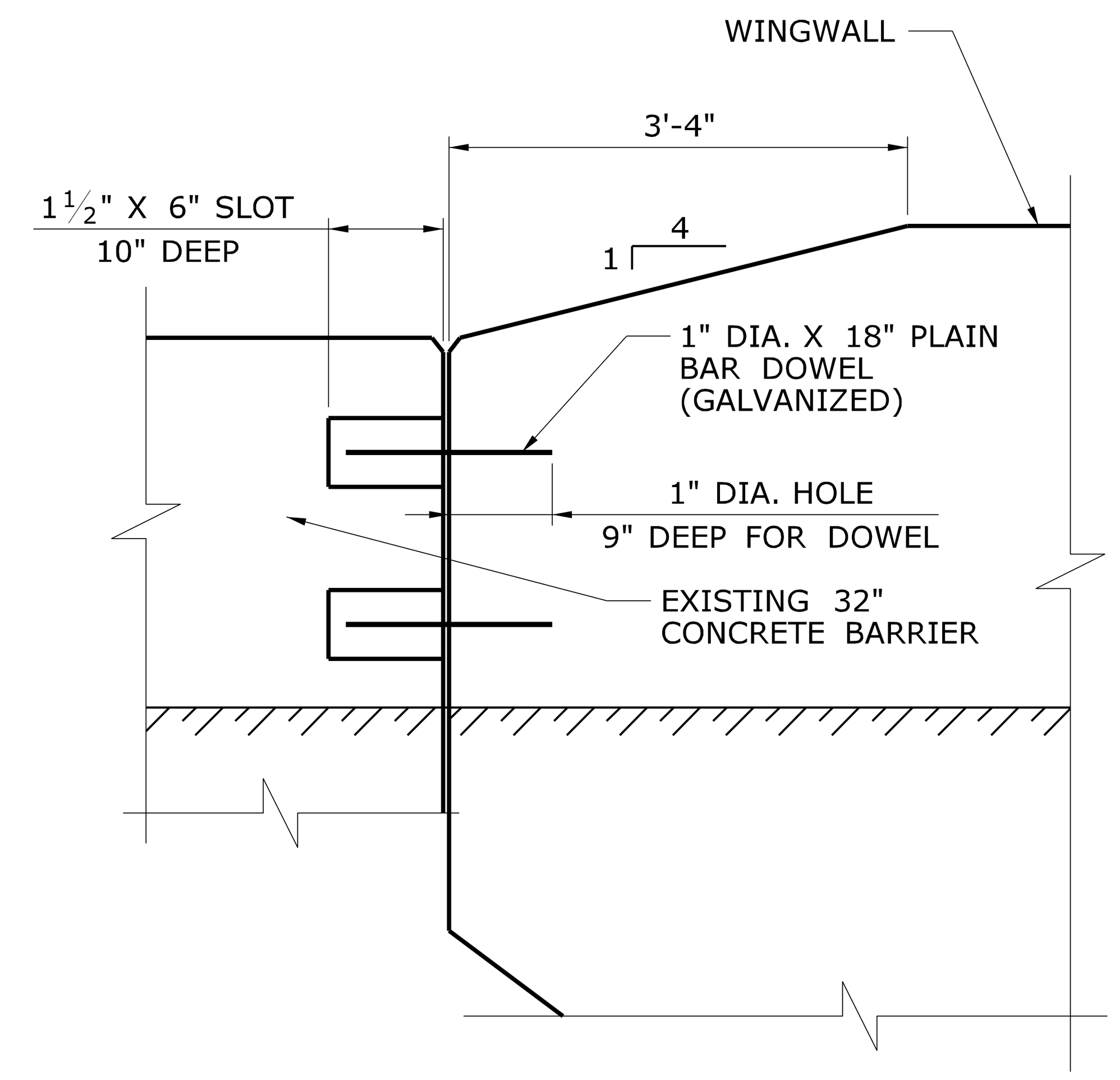
21" X 45" F-SHAPE PRECAST CONCRETE BARRIER CURB

SCALE: 3/4" = 1'-0"



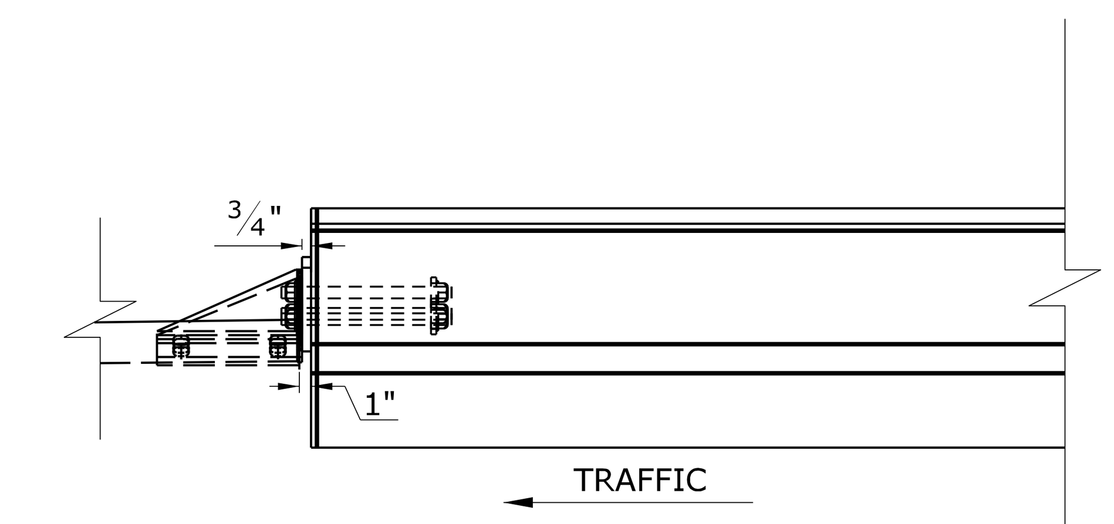
30" X 45" F-SHAPE PRECAST CONCRETE BARRIER CURB

SCALE: 3/4" = 1'-0"

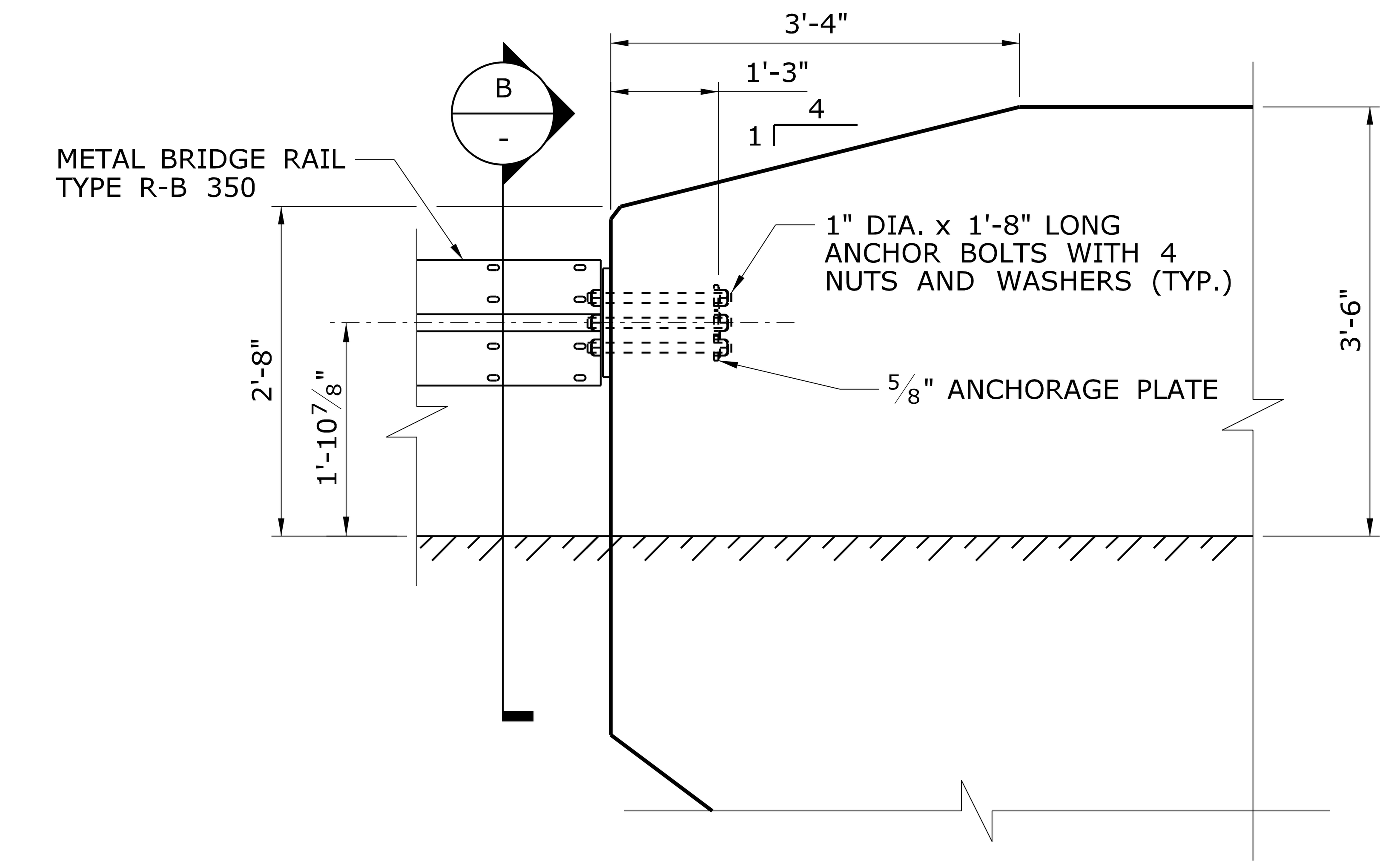


LEADING END BARRIER TRANSITION

SCALE: 3/4" = 1'-0"



PLAN

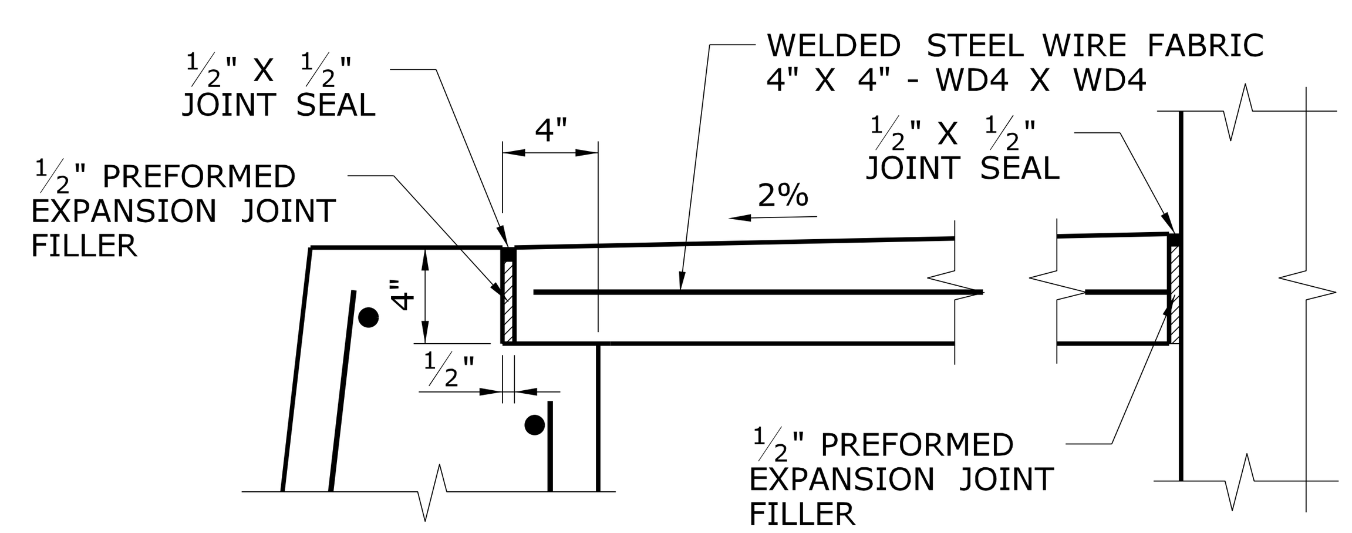


ELEVATION

NOTE: SEE SHEET S-22 FOR REINFORCING DETAILS

TRAILING END R-B 350 RAIL ATTACHMENT

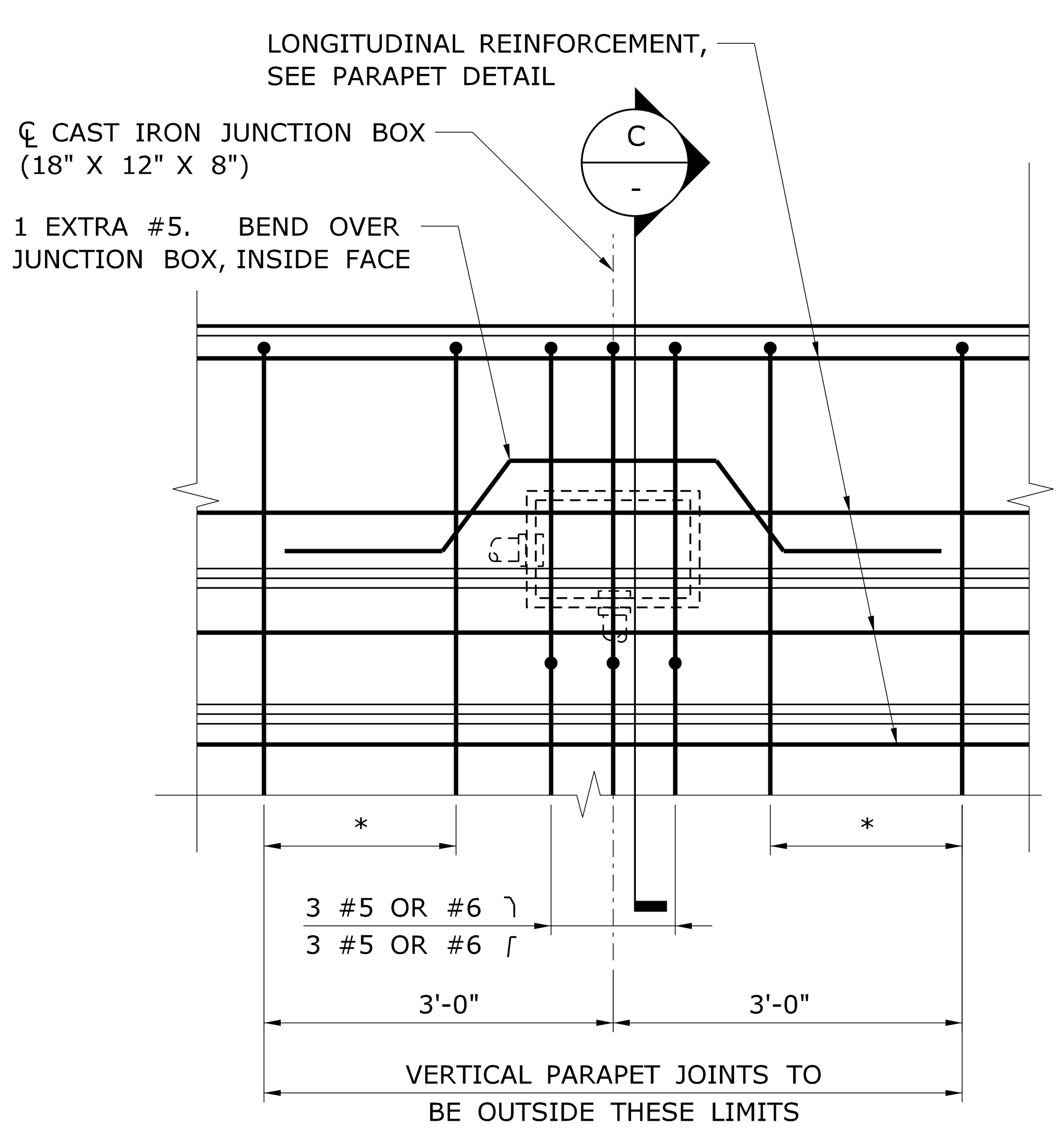
SCALE: 3/4" = 1'-0"



* WELDED STEEL WIRE FABRIC SUBSIDIARY TO "CLASS "A" CONCRETE"

DETAIL A
-

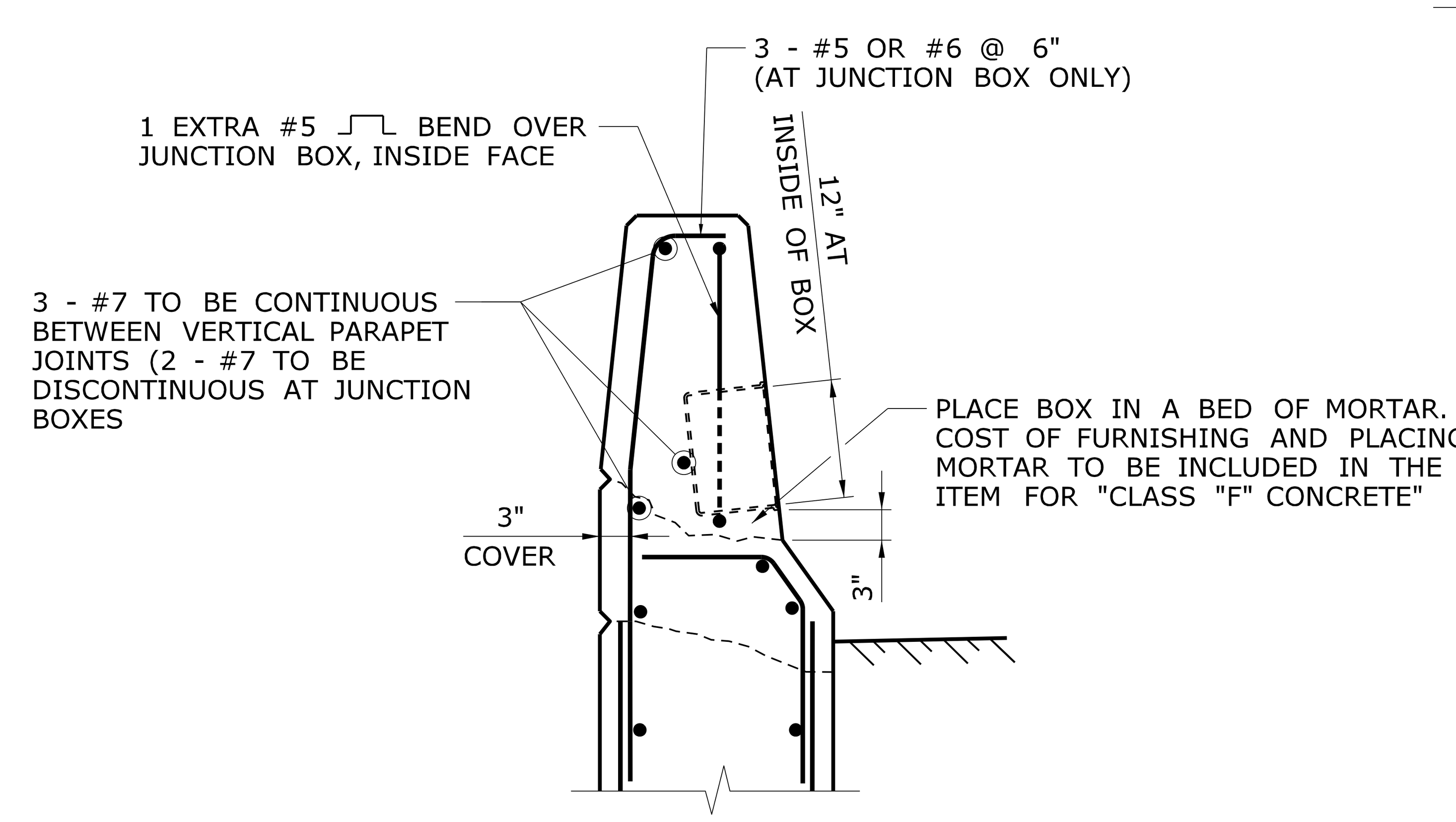
SCALE: 1 1/2" = 1'-0"



* THE VERTICAL PARAPET REINFORCEMENT SHOULD BE DOUBLED (@ 6") WITHIN THESE LIMITS

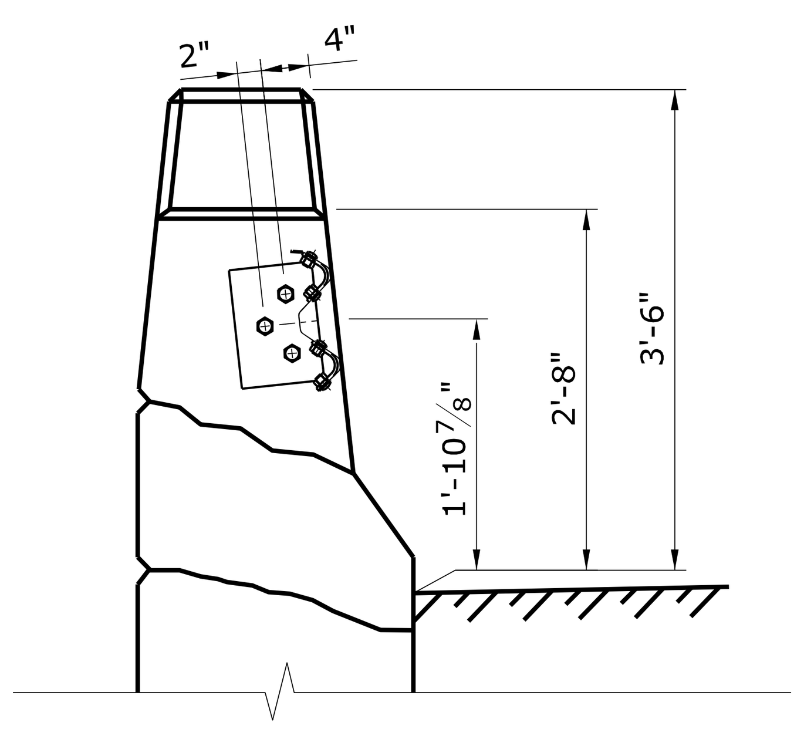
PARAPET REINFORCEMENT AT JUNCTION BOX

SCALE: 3/4" = 1'-0"



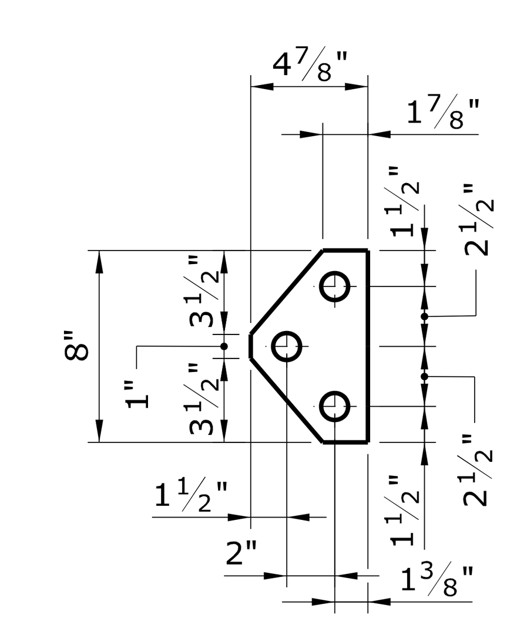
SECTION C
-

SCALE: 3/4" = 1'-0"



SECTION B
-

SCALE: 3/4" = 1'-0"



ANCHORAGE PLATE DETAIL

SCALE: 1 1/2" = 1'-0"

RAIL NOTES:

1. STEEL PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. THE STEEL PLATES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.
2. ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325, MECHANICALLY GALVANIZED.
3. 1"ø PIPE SHALL CONFORM TO ASTM A53 GRADE B OR ASTM A501 AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.
4. RAILWAY ELEMENTS SHALL BE PAID FOR UNDER THE APPLICABLE ROADWAY ITEMS.
5. ALL RAIL ANCHORAGE MATERIAL REQUIRED FOR END ATTACHMENTS SHALL BE PAID FOR UNDER THE APPLICABLE ROADWAY ITEMS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 11/20/2014

DESIGNER/DRAFTER: **SFD**

CHECKED BY: **JCH**

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\SB_MSH_Br02374_31BARR_DTLS.dgn

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT JAMES C. HALL JR. 30546 LICENSED PROFESSIONAL ENGINEER

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CONCORD, NH 03301

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02374 SR 500 TR 805 OVER I-84 TR 831 & TR 833

TOWN: **EAST HARTFORD**

DRAWING TITLE: **CONCRETE BARRIER DETAILS**

PROJECT NO. **042-304**

DRAWING NO. **S-31**

SHEET NO. **01.04.31**